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1 OF 2
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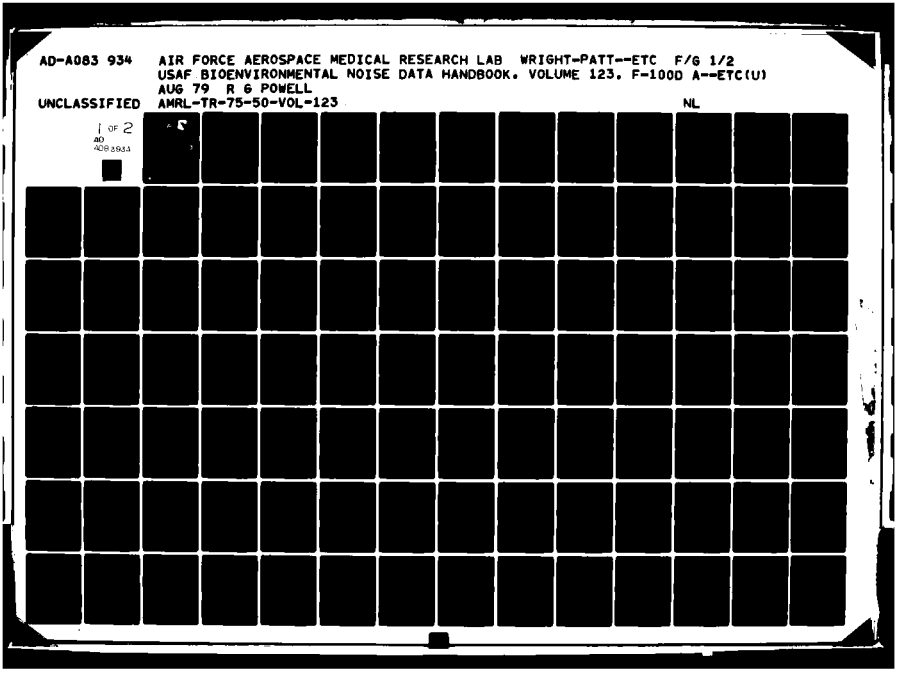

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Volume 123

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LEVEL II

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USAF BIOENVIRONMENTAL NOISE DATA HANDBOOK
Volume 123
F-100D Aircraft, Near and Far-Field Noise

AUGUST 1979

Approved for public release; distribution unlimited.

AEROSPACE MEDICAL RESEARCH LABORATORY
AEROSPACE MEDICAL DIVISION
AIR FORCE SYSTEMS COMMAND
WRIGHT-PATTERSON AIR FORCE BASE, OHIO 45433

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FOR THE COMMANDER

HENNING E. VON GIERKE
Director
Biodynamics and Bioengineering Division
Aerospace Medical Research Laboratory

AIR FORCE/56780/7 March 1980 — 300

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20. ABSTRACT *(Continue on reverse side if necessary and identify by block number)*

The USAF F-100D is a fighter aircraft powered by a J57-P-21 turbojet engine. This report provides measured and extrapolated data defining the bioacoustic environments produced by this aircraft operating on a concrete runup pad for four power conditions. Near-field data are reported for eight locations in a wide variety of physical and psychoacoustic measures: overall and band sound pressure levels, C-weighted and A-weighted sound levels, preferred

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speech interference level, perceived noise level, and limiting times for total daily exposure of personnel with and without standard Air Force ear protectors. Far-field data measured at 19 locations are normalized to standard meteorological conditions and extrapolated from 75-8000 meters to derive sets of equal-value contours for these same seven acoustic measures as functions of angle and distances from the source. Refer to Volume 1 of this handbook, "USAF Bioenvironmental Noise Data Handbook, Vol 1: Organization, Content and Application", AMRL-TR-75-50(1), for discussion of the objective and design of the handbook, the types of data presented, measurement procedures, instrumentation, data processing definitions of quantities, symbols, equations, applications, limitations, etc.

PREFACE

This report was prepared by the Biodynamic Environment Branch, Aerospace Medical Research Laboratory, under Project/Task 723107, Technology to Define and Assess Environmental Quality of Noise from AF Operations and 723108, Crew Safety in Operational Noise Environments.

The author gratefully acknowledges Mr. John Cole for his assistance in preparing this report, Col Justus Rose and Mr. Robert England for their assitance in acquiring the raw data, Mr. Keith Kettler, Mr. Henry Mohlman and Mr. Fred Lampley of the University of Datyon for assistance in the mechanics of data processing, and Mrs. Peggy Massie for assistance in typing and preparation of the graphics.

Table of Contents

List of Tables

List of Figures

INTRODUCTION

The USAF F-100D is a fighter aircraft powered by a J57-21 turbojet engine. The aircraft was manufactured by the North American Rockwell Corporation and the engine by United Aircraft, Pratt and Whitney Division.

This volume provides measured and extrapolated data defining bioacoustic environments produced by this aircraft during ground runup operations. Such data are essential to evaluate ear protection requirements, limiting personnel exposure times, voice communication capabilities, and annoyance problems associated with ground runups of the F-100D aircraft.

This volume is one of a series published by the Aerospace Medical Research Laboratory (AMRL) under the same report number (AMRL-TR-75-50) as a multi-volume handbook that quantifies the noise environments produced at flight/ground crew locations and in surrounding communities by operations of Air Force aircraft and ground support equipment. The far-field, community-type, noise data in the handbook describe the noise produced during *ground operations* of aircraft, ground support equipment, and other ground-based equipment or facilities.

Volume 1 of this handbook discusses the objectives and design of the handbook, the types of data presented, measurement procedures, instrumentation, data processing, definitions of quantities, symbols, equations, applications, limitations, etc. Volume 2 provides a method and data for adjusting the handbook's far-field noise data, which are for standard meteorological conditions (15°C temperature, 70% rel humidity, 0.760 meters Hg barometric pressure), to derive comparable data for other meteorological conditions. *Refer to Volumes 1 and 2* (references 1 and 2) for such information because it is not repeated in other handbook volumes.

A cumulative index lists those aerospace systems contained in the handbook, and identifies the specific volumes containing each type of environmental noise data available (i.e., inflight/flight crew and passenger noise, near-field/ground crew noise, far-field/community noise). Volume numbers are assigned sequentially as individual volumes are published. This index is periodically updated as individual volumes are published and is available upon request from AMRL/BBE, Wright-Patterson AFB, OH 45433. Organizations on the distribution list for the handbook will automatically receive a copy of each updated index.

Direct any questions concerning the technical data in this report and other handbook volumes to: AMRL/BBE, Wright-Patterson AFB, OH 45433; AUTOVON 78-53675 or 78-53664; Commercial (513) 255-3675 or (513) 255-3664.

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1. Cole, John N., *USAF Bioenvironmental Noise Data Handbook Volume 1: Organization, Content and Application*, AMRL-TR-75-50 (1), Aerospace Medical Research Laboratory, Wright-Patterson Air Force Base, Ohio, 1975.

2. Cole, John N., *USAF Bioenvironmental Noise Data Handbook, Volume 2: Procedure to Evaluate Effects of Nonstandard Meteorological Conditions on Far-Field Noise*, AMRL-TR-75-50 (2), AMRL, WPAFB, OH, 1975.

NEAR-FIELD NOISE

MEASUREMENTS

AMRL acquired near-field noise data on the F-100D aircraft during ground runup operations of its turbojet engine. For these tests the aircraft was located on a concrete runup pad at Eglin AFB with no significant reflecting surfaces in the vicinity except the ground plane. Table 1 gives the surface meteorological conditions and the six engine/power conditions. The ground-crew chief selected power conditions and near-field locations generally used during routine maintenance or engine runup for preflight checks.

At each near-field location a test engineer randomly moved a hand-held microphone in and around each location, probing all areas where a crew member's head would normally be located. He recorded all the noise samples on magnetic tape. During analysis of each sample, he determined the octave band root-mean-square sound pressure 4- or 8-sound integration time to derive a power-averaged level for each location. Figure 1 shows the four near-field locations where ground crews are usually located for maintenance and/or preflight checkout operations. Estimates of noise levels at other locations are difficult in the near-field since the noise source is spatially distributed i.e., not a point source. The noise levels at near-field locations can vary widely depending upon relative distances from each noise source (intake noise, exhaust noise, panel resonances, internal engine noise through the engine wall, etc).

Table 1 lists the numeric/alphabetic designators used on the data pages in this report to identify the measurement locations and test conditions. For example, the designator 1/A means ground crew location 1 and test condition A.

RESULTS

The measured data presented in Table 2 define the sound pressure levels (SPL) produced by the F-100D aircraft at the eight ground crew locations. This table includes the overall, 1/3 octave band, and octave band levels. From these data one can calculate the variety of measures given in Table 3, which are widely used to assess the effects of noise on personnel and their performance.

All near-field data are for the meteorological conditions at the time of test but are valid for all typical airbase meteorology because of the short sound propagation distances involved.

TABLE 1

MEASUREMENT LOCATIONS AND TEST CONDITIONS
FOR NEAR-FIELD NOISE MEASUREMENTS

F-100D Aircraft, Ground Runup, Eglin AFB
3 Aug 71
Tail #553706

Ground Crew Location

1	Operator MA-1A
2	Crew Chief on Ladder
3	Marshall
4	Speed Brake Check
5	Saddle Back Check
6	Wheel Chock Pull
7	Flap Check
8	Trim Adjustment

Aircraft Engine Operation

A	MA-1A and MD-3M Operating and Engine Starting
B	Engine Idle, MA-1A and MD-3M Operating
C	Engine Idle, MD-3M Operating
D	Engine Idle
E	Military Power
F	Afterburner Power

Meteorology

Temperature	30.6 C
Bar Pressure	760 M Hg
Rel Humidity	63 %
Wind — Speed	4.6 M/Sec (9 Kt)
— Direction	200 Deg

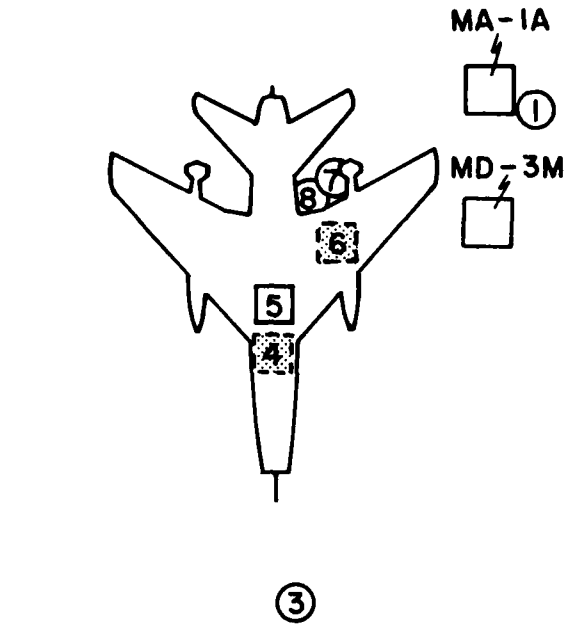


Figure 1. Near-Field Measurement Locations at Trim Pad Eglin AFB FL

FAR-FIELD NOISE

MEASUREMENTS

AMRL acquired far-field data during two 1-hour test periods at Eglin AFB. Figure 2 shows the ground runup pads, ground cover, aircraft orientation and the microphone measurement sites on each semicircle. The centers of the 50 and 75 meter radius semicircles used in surveying the J57-21 engine were on the ground directly below the intersection of the aircraft's centerline and the plane passing through the exhaust-nozzle's exit.

The ground runup pad (Hot Cargo Pad) used for the idle and 70% RPM measurements did not have a blast deflector; therefore, the jet exhaust was in a "free-flow" condition. However the trim pad used for the military and afterburner power measurements did have a blast-deflector installed as part of the facility. In this case the aircraft was placed on a long tie-down cable so that the distance between the exhaust-nozzle and the deflector was 52 meters. At this distance there was minimal interaction between the noise source and the blast deflector so that the military and afterburner noise measurements acquired at 50 meters were essentially in a "free-flow" condition and should be used as such.

Table 4 provides cockpit readout of the engines RPM for each setting used in the far-field tests. Also listed in this table are the surface meteorological conditions during data acquisition.

All microphone measurement sites are in the acoustic far-field of the source where the sound wavefronts spherically diverge and the noise source may be regarded as a point source.

Test personnel acquired far-field noise data at Eglin AFB by using a hand-held microphone (1.7 meters/5½ feet above the ground plane and pointed at the noise source, 0° incidence) and sequentially record 5-10 seconds of data at each far-field location on a portable microphone/tape recorder system. The samples were then time-integrated to derive a root-mean-square sound pressure level.

RESULTS

Table 5 lists the overall and 1/3 octave band SPL measured at the far-field locations under meteorological conditions at the time of the test. Data in all other figures and tables are based on these levels. These data were normalized to 100 meters distance and standard meteorological conditions (15°C temperature, 70% relative humidity, 0.760 meter Hg barometric pressure) and used to derive the graphic data in Figure 3 which provides a compact summary of the far-field noise characteristics of the F-100D aircraft in a standard format.

Figure 4 and Table 6 present two basic acoustic measures, the acoustic power levels and the directivity index, respectively. The acoustic power level describes the power radiated by the source as a function of frequency. The directivity index is a standard acoustical engineering measure that describes the geometric way in which the source radiates this power as a function of both frequency and angle from source. These basic source measures are primarily of interest for acoustical engineers and noise generation/control specialists.

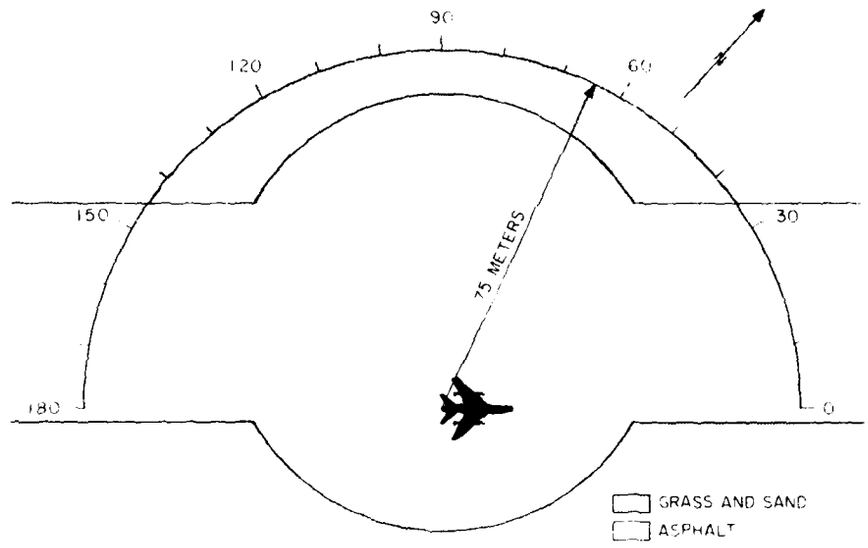


Figure 2(a). Far-Field Measurement Locations at the Hot Cargo Pad, Eglin AFB FL

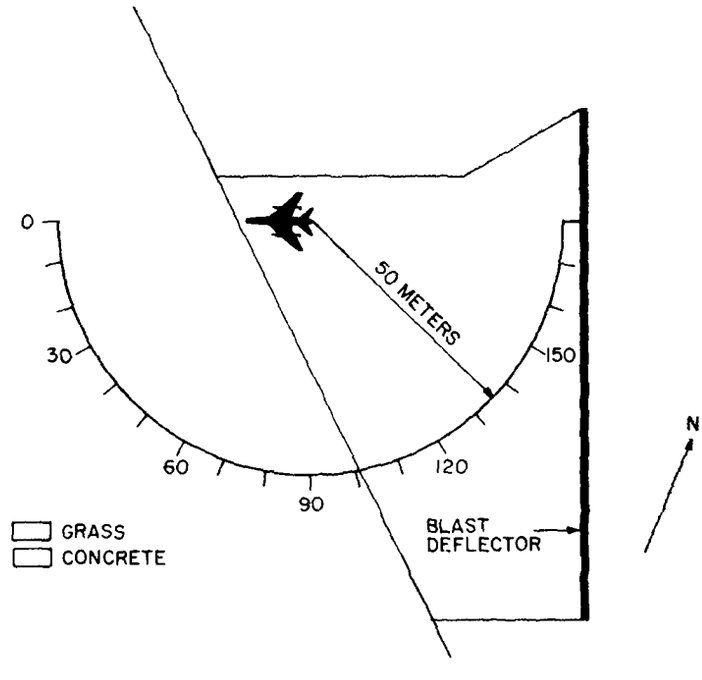


Figure 2(b). Far-Field Measurement Locations at the Trim Pad, Eglin AFB FL

Estimates of noise levels for intermediate power conditions (e.g., 88% engine RPM) can be determined as explained in Volume 1 of this handbook.

Figures 5 through 11 are sets of equal noise contours describing seven different measures of noise as a function of angle and distance from the source for standard day meteorology. They are, respectively, overall sound pressure level, C-weighted sound level, A-weighted sound level, perceived noise level, speech interference level, permissible exposure times for personnel and octave band sound pressure levels.

Data excessively influenced by spurious background/electronic noise were eliminated from all figures and tables. No data are presented at the 170 and 180 degree locations for the afterburner power and at the 160, 170, and 180 degree locations for the military power setting because of turbulent air flow behind the aircraft. Typically, the A-weighted levels for these angles are 10 to 20 dBA below the level measured at the preceding microphone location.

Test personnel performed noise surveys during quiet periods when the background noise was minimal, e.g., early in the morning when no other aircraft or engine test stands were operating. Data eliminated because they were near the background/electronic noise were generally not significant because the levels were so low (e.g., Table 5 at idle power).

Volume 2 of the handbook describes the influence of meteorology on far-field noise environments, and provides, if required, the factors necessary to adjust the handbook's standard meteorological day data.

TABLE: 2 MEASURED SOUND PRESSURE LEVEL (DB)
1/3 OCTAVE BAND

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
GROUND CREW
NEAR FIELD NOISE LEVELS

OPERATION:

IDENTIFICATION:
OMEGA 3.2
TEST 71-019-104
RUN 01

04 DEC 74

FREQ (HZ)	LOCATION/CONDITION 1/A	2/B	3/C	4/C	5/D	6/C	7/C	8/E	8/F
25	83	76	87	88	75	87	86	89	101
31.5	87	78	86	89	78	88	82	91	102
40	90	79	81	86	77	85	84	93	105
50	90	89	88	92	77	95	98	94	104
63	92	87	84	89	77	91	94	95	106
80	96	83	78	85	76	87	86	99	109
100	92	93	92	95	81	97	95	100	110
125	100	91	88	90	80	91	91	103	111
160	106	97	86	96	81	95	92	104	114
200	100	94	85	91	81	88	90	105	114
250	98	93	88	93	83	93	93	106	114
315	100	89	85	89	82	90	90	107	114
400	105	82	83	86	81	87	89	106	113
500	105	84	84	87	84	88	89	106	113
630	101	90	82	86	83	86	89	107	115
800	98	88	83	85	86	86	89	106	114
1000	94	84	86	84	88	86	89	105	112
1250	91	81	92	85	90	89	88	104	111
1600	93	83	81	84	83	85	87	105	112
2000	94	81	79	82	82	83	89	105	111
2500	95	81	86	85	82	86	90	104	110
3150	96	82	79	81	80	80	87	103	108
4000	98	84	78	80	82	81	89	101	106
5000	98	83	74	78	78	79	90	100	104
6300	99	83	72	77	77	77	92	100	104
8000	107	87	69	75	76	75	89	100	104
10000	109	84	66	74	72	74	87	98	102
OVERALL	115	103	100	103	97	103	105	117	125

LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: 2 MEASURED SOUND PRESSURE LEVEL (DB) OCTAVE BAND

IDENTIFICATION:
OMEGA 3.2
TEST 71-019-104
RUN 01

04 DEC 74

PAGE J1

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
GROUND CREW
NEAR FIELD NOISE LEVELS

OPERATION:

LOCATION/CONDITION

FREQ (HZ)	1/A	2/B	3/C	4/C	5/D	6/C	7/C	8/E	8/F
31.5	92	82	90	92	82	92	89	96	107
63	98	92	90	94	81	97	99	101	111
125	107	99	94	99	85	99	98	107	117
250	104	97	91	96	87	95	96	111	119
500	109	91	88	91	87	92	94	111	118
1000	100	90	93	89	93	92	93	110	117
2000	99	87	88	88	87	89	93	109	115
4000	102	88	82	84	85	85	94	106	111
8000	111	90	74	80	80	80	94	104	108
OVERALL	115	103	100	103	97	103	105	117	125

TABLE: MEASURES OF HUMAN NOISE EXPOSURE

3

IDENTIFICATION:

OMEGA 3.2
TEST 71-019-104
RUN 01

04 DEC 74

PAGE H1

NOISE SOURCE/SUBJECT:

F-100D AIRCRAFT
GROUND CREW
NEAR FIELD NOISE LEVELS

OPERATION:

	LOCATION/CONDITION								
	1/A	2/B	3/C	4/C	5/D	6/C	7/C	8/E	8/F
HAZARD/PROTECTION									
C-WEIGHTED OVERALL SOUND LEVEL (OASLC IN DBC) AT EAR									
A-WEIGHTED OVERALL SOUND LEVEL (OASLA IN DBA) AT EAR									
MAXIMUM PERMISSIBLE TIME (T IN MINUTES) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)									
NO PROTECTION									
OASLC	114	103	99	102	96	103	104	117	125
OASLA	112	97	96	96	95	97	101	116	122
T	3.8	50	60	60	71	50	25	P	P
MINIMUM QPL EAR MUFFS									
OASLA*	91	80	75	80	71	80	80	93	101
T	143	960	960	960	960	960	960	101	25
AMERICAN OPTICAL 1700 EAR MUFFS									
OASLA*	87	75	70	75	65	76	76	88	96
T	285	960	960	960	960	960	960	240	60
V-51R EAR PLUGS									
OASLA*	86	73	71	72	70	73	75	90	98
T	339	960	960	960	960	960	960	170	42
AMERICAN OPTICAL 1700 EAR MUFFS PLUS V-51R EAR PLUGS									
OASLA*	73	59	58	59	57	60	62	76	83
T	960	960	960	960	960	960	960	960	571
H-133 GROUND COMMUNICATION UNIT									
OASLA*	83	70	70	70	68	71	74	88	95
T	571	960	960	960	960	960	960	240	71
COMMUNICATION									
PREFERRED SPEECH INTERFERENCE LEVEL (PSIL IN DB)									
PSIL	102	89	90	90	89	91	94	110	117
ANNOYANCE									
PERCEIVED NOISE LEVEL, TONE CORRECTED (PNLT IN PNDB)									
TONE CORRECTION (C IN DB)									
PNLT	127	112	111	112	109	113	117	129	135
C	1	1	3	1	2	2	1	0	0

* BASED ON CALCULATED SPL SPECTRUM UNDER PROTECTIVE DEVICE.
P ADDITIONAL EAR PROTECTION REQUIRED.

TABLE 4

TEST CONDITIONS
FOR FAR-FIELD NOISE MEASUREMENTS

F-100D Aircraft, Ground Runups, Eglin AFB FL
19 July 1971, Tail # 63005
3 Aug 1971, Tail #553706

Aircraft Engine Operation

Idle	53 % RPM, Core Speed
70% Runup	70 % RPM, NC
Military	97 % RPM, NC
Afterburner	97 % RPM, NC

Meteorology

19 Jul 1971 (Idle and 70%)	Temperature	28 C
	Bar Pressure	0.759 M Hg
	Rel Humidity	81 %
	Wind — Speed	2.6 M Sec (5 Kt)
	— Direction	280 Deg
3 Aug 1971 (Military and Afterburner)	Temperature	30.6 C
	Bar Pressure	0.761 M Hg
	Rel Humidity	63 %
	Wind — Speed	4.6 M/Sec (9 Kt)
	— Direction	200 Deg

TABLE 5: MEASURED SOUND PRESSURE LEVEL (DB)
1/3 OCTAVE BAND
DISTANCE = 75 METERS

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-031
RUN 01
18 SEP 78
PAGE 2

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
GROUND RUNUP NOISE

OPERATION:
IDLE POWER
58% RPM
FREE FLOW

METEOROLOGY:
TEMP = 28 C
BAR PRESS = .759 M HG
REL HUMID = 81 %

FREQ (HZ)	ANGLE (DEGREES) 0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
25															67<	68<	69<	70<	70<
31.5														67<	68<	69<	67<	66<	71<
40												65<	66<	68<	69<	71<	68<	67<	71<
50								62<			64<	63<	66<	66<	68<	69<	68<	63<	67<
63													68<	68<	68<	69<			
80		62<	62<		62<	63<	65<	65<	64<	64<	66<	68<	70<	70<	69<	69<	64<		
100	66<	66<	67<	68<	69<	70<	72<	71<	70<	70<	71<	73<	76	76	74<	73<	65<		
125	67<	66<	67<	68<	66<	65<	69<	69<	69<	68<	71<	72<	73	73	72<	70<			
160	70<	69<	70<	70<	68<	69<	72	71<	73	73	76	76	79	77	76	72			
200	65<	64<	69<	66<	68<	65<	69<	70<	70<	70<	72<	73	76	73	71<	69<			
250	65<	66<	69<	67<	66<	67<	69<	68<	70	70	72	74	75	73	70	66<			
315	68	71	70	68	69	69	70	69	70	71	74	75	76	76	71	65			
400	69	70	71	72	71	70	73	72	73	73	75	76	77	76	72	66	51<		56<
500	69	69	72	74	72	70	73	71	72	72	74	73	77	73	71	65	50<		52<
630	68	71	70	69	69	67	67	67	67	69	71	72	71	72	69	65	48<		54<
800	69	71	71	72	68	69	67	66	66	67	68	68	72	69	65	64	48<		51<
1000	68	70	64	68	67	71	62	64	63	65	66	70	72	69	68	65	49<	43<	47<
1250	67	66	68	71	67	78	68	64	62	64	65	68	73	68	65	64	51	44<	46<
1600	74	71	73	66	67	61	64	59	59	61	62	63	72	67	65	63	47<	40<	45<
2000	75	75	74	70	71	61	69	63	64	60	65	62	69	65	63	62	48	41<	45<
2500	76	79	77	76	77	71	72	69	66	66	71	69	74	69	66	68	52	45<	55
3150	73	76	72	75	71	70	67	64	63	65	69	68	72	67	65	62	50	42<	46
4000	73	74	74	75	69	71	68	61	61	64	65	66	69	64	65	63	50	43<	43<
5000	71	70	70	67	69	63	65	61	60	62	64	65	69	64	64	63	50	43<	42<
6300	67	67	67	68	64	61	63	58	59	61	62	63	67	63	63	63	49	43<	42<
8000	66	65	66	63	63	61	61	57	57	59	61	62	65	62	61	60	47<	40<	39<
10000	62	62	62	61	58	56	57	54	55	58	59	62	64	61	61	59	44<	38<	39<
OVERALL	84	85	84	84	83	83	82	81	81	81	84	84	87	85	83	82	75	73	76

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE 5: MEASURED SOUND PRESSURE LEVEL (D3)
1/3 OCTAVE BAND
DISTANCE = 75 METERS

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-031
RUN 02
24 JAN 79
PAGE 2

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
GROUND RUNUP NOISE

OPERATION:
70% RPM
FREE FLOW

METEOROLOGY:
TEMP = 28 C
BAR PRESS = .759 M HG
REL HUMID = 81 %

FREQ (HZ)	ANGLE (DEGREES) 0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
25							67<					68<	70<	72<	74<	76<	78	75<	75<
31.5									66<	68<	68<	71<	70<	75<	77	77	80	76<	77
40							67<	68<	68<	67<	70<	68<	71<	74<	77	77	79	77	75<
50		64<	63<	64<	65<	66<	68<	68<	68<	68<	69<	70<	72<	74	77	77	79	75	73<
63					67<	68<	71<	70<	70<	69<	71<	71<	74<	76<	78	79	78	73<	70<
80	63<	65<	65<	67<	67<	68<	72<	71<	71<	70<	72<	72<	76	77	78	79	77	68<	64<
100	68<	67<	69<	69<	68<	71<	75	75	75	74<	75	76	78	79	80	79	75		
125	69<	70<	70<	71<	70<	73	77	77	76	75	77	78	79	81	81	77	71<		
160	71<	73	73	72	73	74	78	79	78	79	80	80	80	82	81	76	68<		
200	69<	69<	71<	69<	71<	72<	77	77	76	76	78	78	79	78	77	69<			
250	67<	68<	70	69<	70<	72	75	75	74	75	76	76	77	77	75	65<			
315	69	69	69	70	72	73	76	75	75	72	77	76	80	79	75	64<	59<		
400	71	73	73	75	76	76	78	78	79	75	79	78	80	78	74	65	58<		
500	71	74	74	75	78	76	78	79	79	79	80	78	79	74	72	65	55<		
630	68	70	71	71	72	71	73	73	73	76	75	73	78	75	72	65	56<	49<	
800	72	74	73	73	73	74	75	74	76	70	75	74	78	73	68	64	53<	48<	
1000	75	74	73	71	70	73	69	70	72	71	71	73	77	71	68	64	53	46<	43<
1250	79	76	75	73	72	77	71	71	72	68	69	72	77	69	67	66	55	47<	44<
1600	75	72	70	68	67	69	67	66	68	67	67	69	74	68	65	61	53	45<	42<
2000	74	74	73	70	72	72	74	69	68	65	68	68	70	69	64	60	54	46<	43<
2500	81	83	83	79	80	81	80	75	73	67	70	67	67	66	63	58	55	48	44<
3150	77	79	78	76	77	77	76	73	71	66	70	67	69	65	63	58	53	46<	42<
4000	82	83	81	78	78	81	75	77	77	74	81	76	81	76	71	63	59	52	50
5000	76	75	75	73	73	72	73	69	71	67	70	67	73	71	68	60	52	45	42<
6300	73	76	74	73	73	72	71	68	70	67	69	68	69	67	66	60	51	44	40<
8000	72	71	71	70	70	71	70	68	70	68	70	68	71	69	66	62	55	49	45<
10000	67	68	68	66	67	67	66	66	66	64	68	66	69	68	65	60	52	46	41<
OVERALL	88	89	88	87	87	88	89	88	88	87	89	88	91	90	89	87	87	82	82

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE 5: MEASURED SOUND PRESSURE LEVEL (DB)
1/3 OCTAVE BAND
DISTANCE = 50 METERS

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-062
RUN 01
18 SEP 78
PAGE 2

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
97% RPM
DEFLECTED FLOW

METEOROLOGY:
TEMP = 31 C
BAR PRESS = .761 M HG
REL HUMID = 63 %

FREQ (HZ)	ANGLE (DEGREES) 0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
25	83	81	84	81	81	82	86	89	88	83	85	87	90	97	99	100			
31.5	81	82	83	80	82	83	84	86	86	87	85	89	92	96	101	103			
40	82	83	84	84	86	85	87	88	88	88	89	93	96	100	105	106			
50	83	82	84	83	86	86	86	89	90	89	91	95	98	103	106	107			
63	85	86	86	87	87	88	89	91	92	94	93	97	101	107	110	109			
80	87	88	87	89	88	88	90	92	93	93	95	100	104	111	113	112			
100	89	90	90	90	90	91	92	94	95	97	98	103	108	115	116	113			
125	92	92	93	92	92	94	95	96	98	99	102	108	114	119	120	115			
160	93	94	94	94	95	95	97	98	99	101	104	111	116	121	122	116			
200	93	94	94	94	94	96	97	97	99	101	104	108	113	120	122	115			
250	92	92	91	94	94	94	95	97	99	100	103	108	112	118	120	114			
315	95	94	93	96	95	96	97	99	102	104	106	110	115	118	121	115			
400	98	97	96	98	97	98	99	101	103	105	108	112	117	119	119	112			
500	94	92	92	97	96	96	97	99	101	104	107	110	114	116	116	107			
630	93	92	93	95	95	95	97	100	103	104	106	109	112	115	116	107			
800	92	91	92	96	95	96	98	100	102	105	107	110	113	113	113	103			
1000	91	90	90	94	94	94	97	99	103	104	105	108	111	111	112	103			
1250	88	88	88	93	93	93	95	98	101	103	103	106	109	107	109	100			
1600	89	88	88	92	92	92	96	99	101	104	103	105	107	106	109	99			
2000	89	92	90	92	92	92	96	99	102	103	102	104	106	104	107	99			
2500	93	95	93	93	93	93	97	99	102	104	102	103	104	103	106	99			
3150	88	89	90	90	90	90	94	97	100	102	100	100	103	102	103	97			
4000	87	88	88	90	89	90	94	97	100	102	100	101	102	102	102	96			
5000	86	88	88	88	88	89	94	95	98	100	100	101	103	100	100	94			
6300	82	84	84	85	85	87	92	93	96	99	98	99	101	98	99	92			
8000	81	83	83	84	84	87	91	93	97	99	100	99	99	97	98	91			
10000	78	79	79	81	81	83	87	90	92	95	95	100	97	95	95	88			
OVERALL	105	105	105	107	106	107	109	111	114	115	117	120	124	128	130	124			

LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE 5: MEASURED SOUND PRESSURE LEVEL (DB)
1/3 OCTAVE BAND
DISTANCE = 50 METERS

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-062
RUN 02
18 SEP 78
PAGE 2

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
FAR FIELD NOISE

OPERATION:
AFTERBURNER POWER
97% RPM
DEFLECTED FLOW

METEOROLOGY:
TEMP = 31 C
BAR PRESS = .761 M HG
REL HUMID = 63 %

FREQ (HZ)	ANGLE (DEGREES) 0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
25	92	92	91	90	92	93	95	94	94	94	94	96	102	106	108	111	108		
31.5	92	92	92	93	91	94	96	96	96	95	96	99	103	108	111	112	109		
40	93	93	93	94	94	96	97	97	99	98	99	102	108	112	115	115	107		
50	93	92	92	94	96	96	97	98	98	99	101	106	111	116	116	115	104		
63	94	94	95	96	97	98	98	100	101	101	102	107	113	118	119	116	104		
80	95	96	96	98	98	100	99	100	102	103	104	109	117	120	119	116	103		
100	96	96	98	100	99	101	101	102	103	105	107	114	121	124	122	119	102		
125	100	99	101	101	102	104	103	105	106	108	111	119	127	127	125	121	101		
160	101	100	101	101	103	105	105	107	108	110	113	120	129	128	126	122	104		
200	99	99	101	102	103	104	104	106	108	110	113	120	127	127	125	121	101		
250	98	99	99	101	102	104	103	105	107	109	113	120	126	126	125	120	98		
315	100	102	101	104	105	107	107	109	111	114	117	123	129	129	127	123	96		
400	103	101	101	104	107	108	107	110	112	115	119	123	128	129	125	122	98		
500	99	98	98	101	103	104	104	107	109	112	117	121	124	125	121	117	97		
630	97	99	100	104	104	108	106	110	112	115	118	124	127	128	123	120	98		
800	96	94	96	100	104	105	103	108	110	113	119	120	123	123	118	115	96		
1000	93	93	96	100	103	106	103	109	110	113	117	120	124	124	118	113	96		
1250	91	91	93	97	101	104	101	107	109	112	116	118	122	121	116	110	96		
1600	91	90	92	96	100	104	100	107	109	112	115	118	121	120	114	110	94		
2000	94	95	94	96	100	104	101	108	110	113	115	119	121	120	114	111	93		
2500	95	99	95	95	99	104	99	107	109	112	114	117	119	118	112	109	89		
3150	89	92	91	93	97	101	98	104	107	110	112	115	117	117	109	106	88		
4000	88	90	90	92	96	101	97	105	107	110	111	115	116	116	109	104	87		
5000	87	89	89	91	94	99	96	103	105	108	109	113	114	114	107	103	84		
6300	85	86	87	89	92	97	95	101	103	106	108	111	113	113	106	101	83		
8000	83	84	85	88	91	95	94	100	102	106	107	110	112	112	105	101	81		
10000	81	82	83	85	88	93	91	97	99	104	106	109	111	111	104	99	78		
OVERALL	110	110	111	113	115	117	116	120	122	125	128	132	137	138	135	131	116		

LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

FIGURE: 3 NORMALIZED FARFIELD NOISE LEVELS

DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
GROUND RUNUP NOISE

OPERATION:
IDLE POWER
58% RPM
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-031
RUN 01
18 SEP 78
PAGE 6

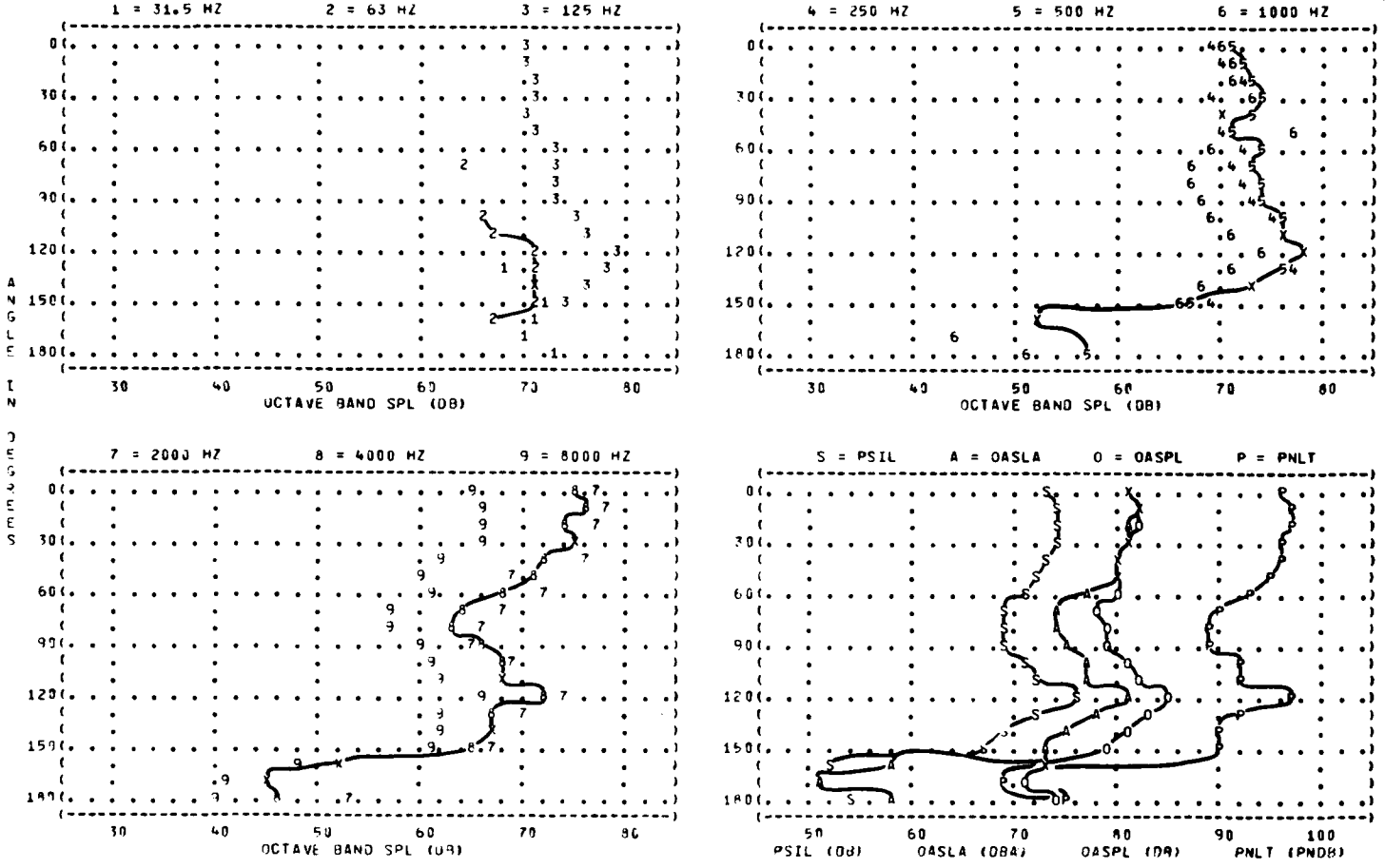


FIGURE 3 NORMALIZED FARFIELD NOISE LEVELS

DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
GROUND RUNUP NOISE

OPERATION:
70% RPM
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-031
RUN 02
24 JAN 79
PAGE 6

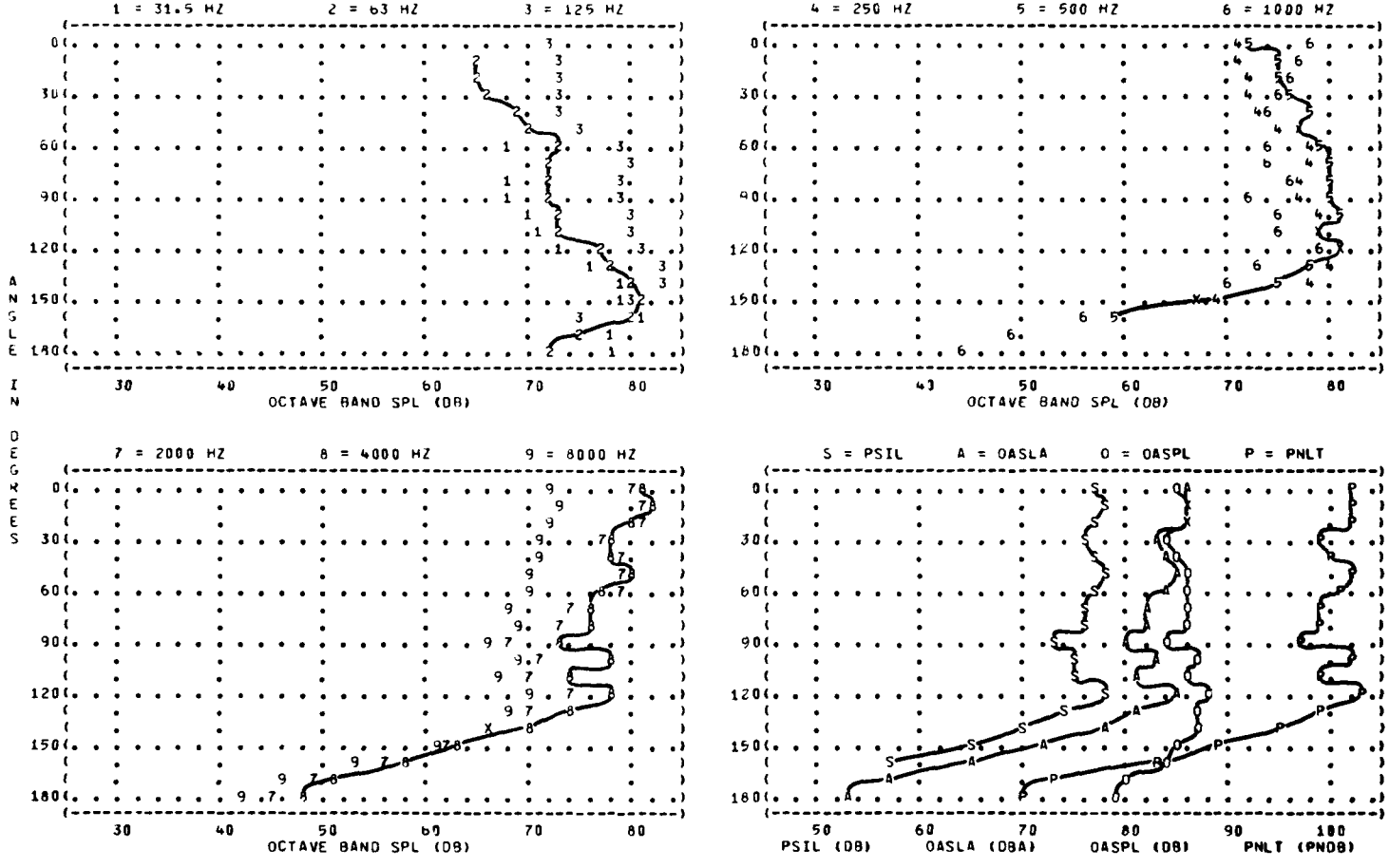


FIGURE: NORMALIZED FARFIELD NOISE LEVELS

3 DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
97% RPM
DEFLECTED FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-062
RUN 01
18 SEP 78
PAGE 6

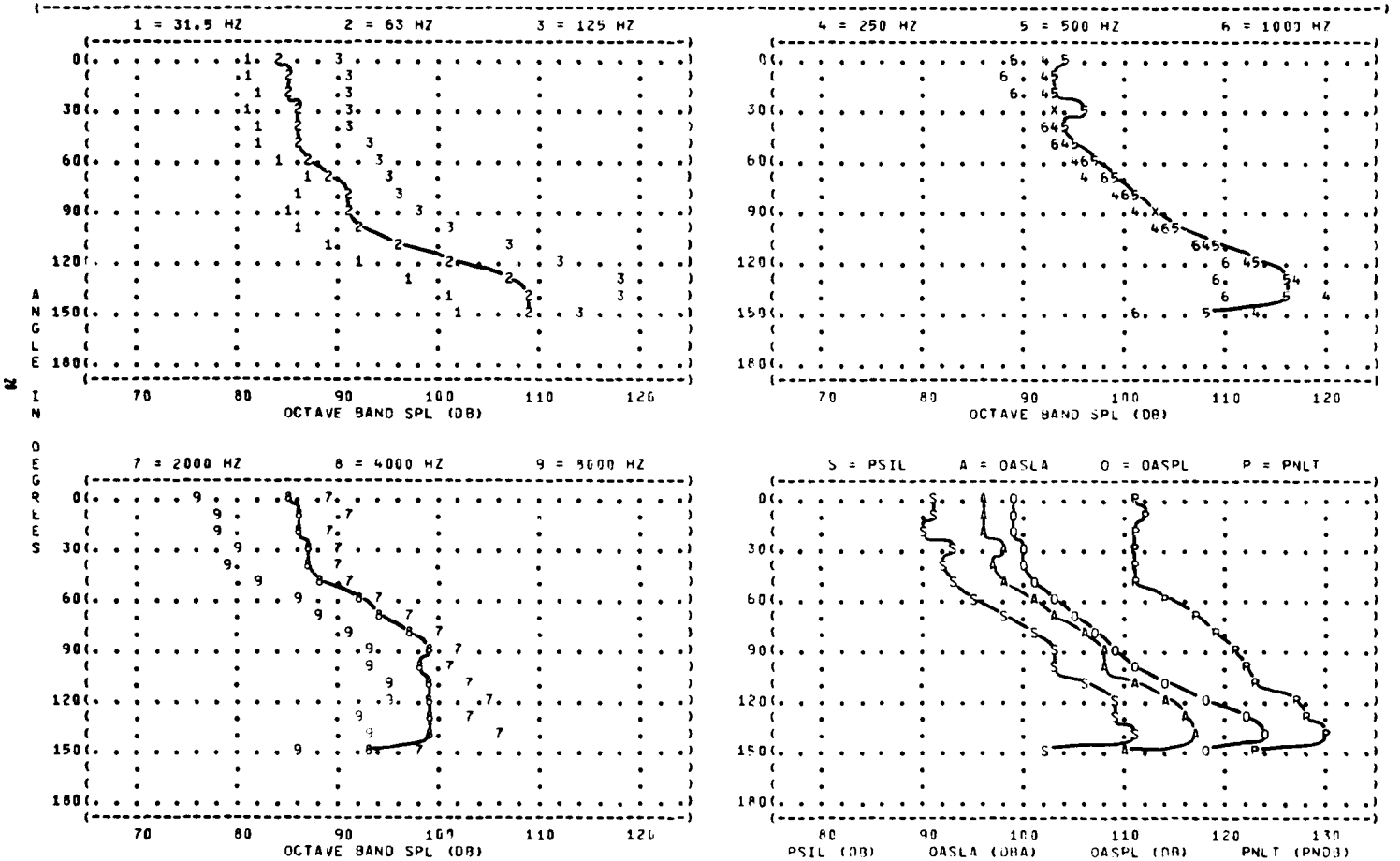


FIGURE: NORMALIZED FARFIELD NOISE LEVELS

3 DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT:

F-100D AIRCRAFT
J57-P-21 ENGINE
FAR FIELD NOISE

OPERATION:

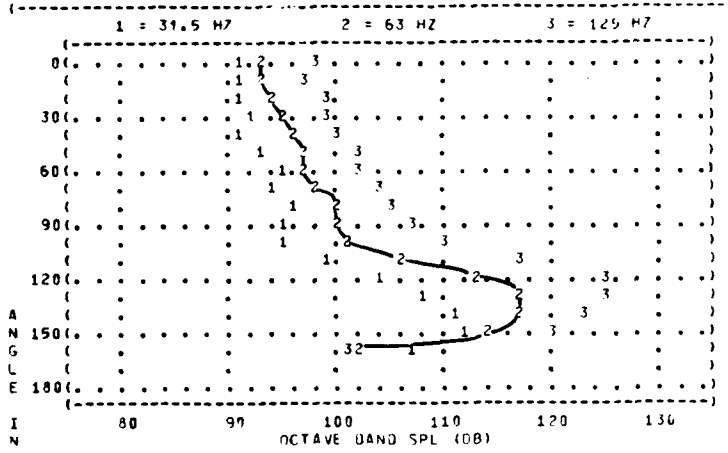
AFTERBURNER POWER
97% RPM
DEFLECTED FLOW

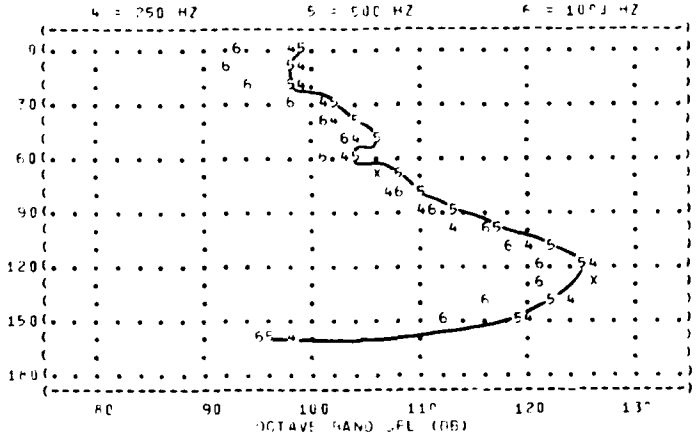
METEOROLOGY:

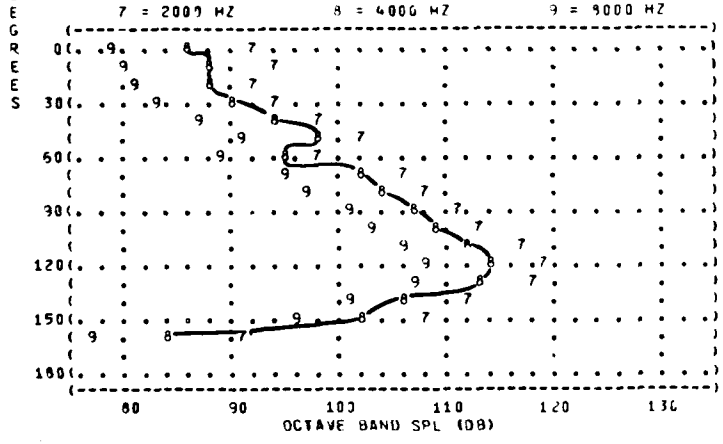
TEMP = 15 C
BAR PRESS = .760 M HG
R C HUMID = 20 %

IDENTIFICATION:

OMEGA 1.4
TEST 75-00?-06?
RUN 02
18 SEP 75
PAGE 5







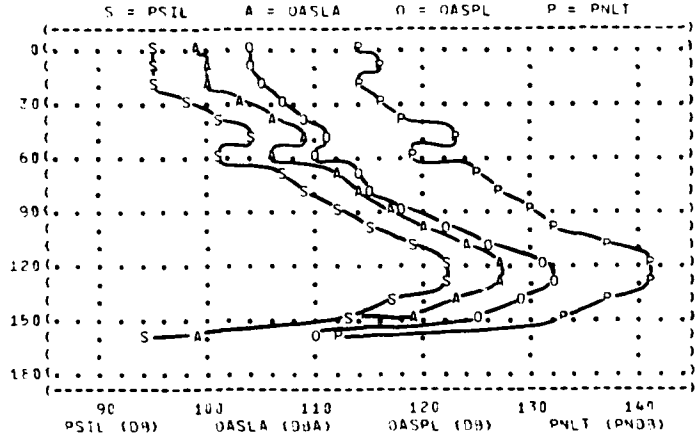


FIGURE: ACOUSTIC POWER LEVEL (PWL)

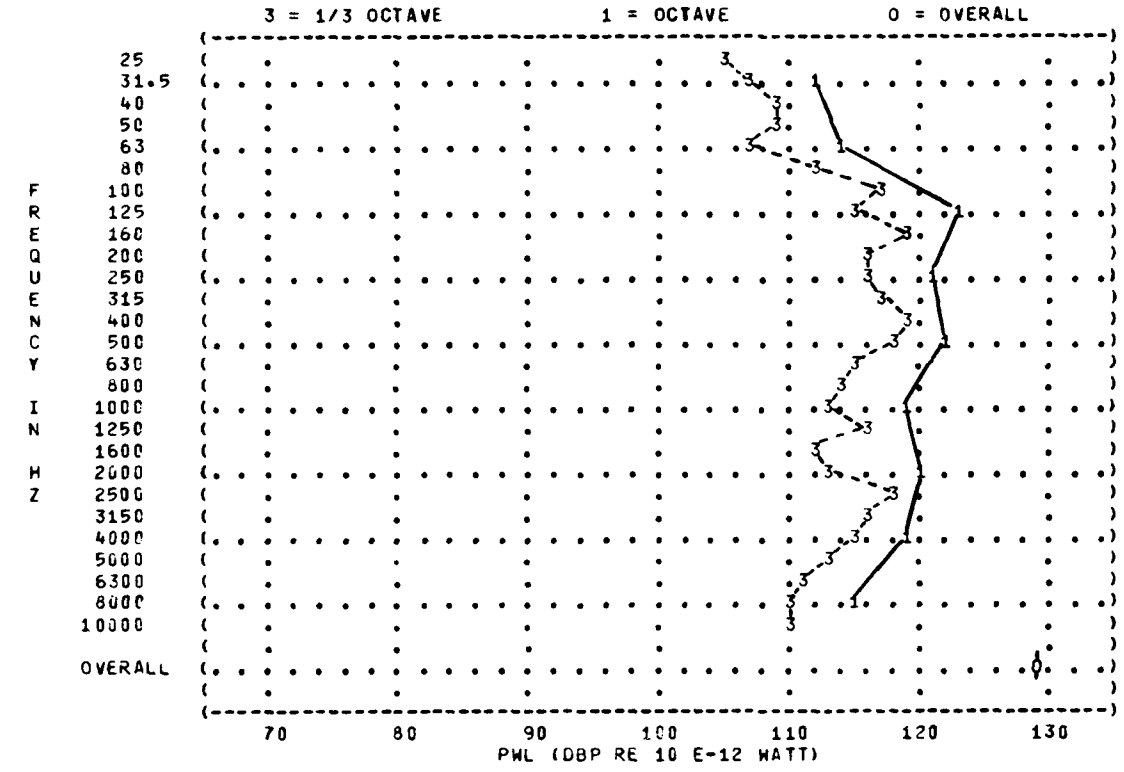
4

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
GROUND RUNUP NOISE

OPERATION:
IDLE POWER
58% RPM
FREE FLOW

METEOROLOGY:
TEMP = 28 C
BAR PRESS = .759 M HG
REL HUMID = 81 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-031
RUN 01
18 SEP 78
PAGE 3



	PWL	
	1/3 OCTAVE	OCTAVE
25	105.1	
31.5	106.7	112.0
40	108.9	
50	108.5	
63	107.2	114.5
80	111.9	
100	117.4	
125	115.4	122.5
160	119.5	
200	116.4	
250	116.0	121.4
315	117.5	
400	118.9	
500	118.0	122.4
630	114.8	
800	113.9	
1000	113.2	119.1
1250	115.6	
1600	111.7	
2000	113.1	120.2
2500	118.5	
3150	115.6	
4000	115.3	119.5
5000	112.7	
6300	111.4	
8000	110.5	115.4
10000	109.7	
OVERALL		129.3

FIGURE: ACOUSTIC POWER LEVEL (PWL)

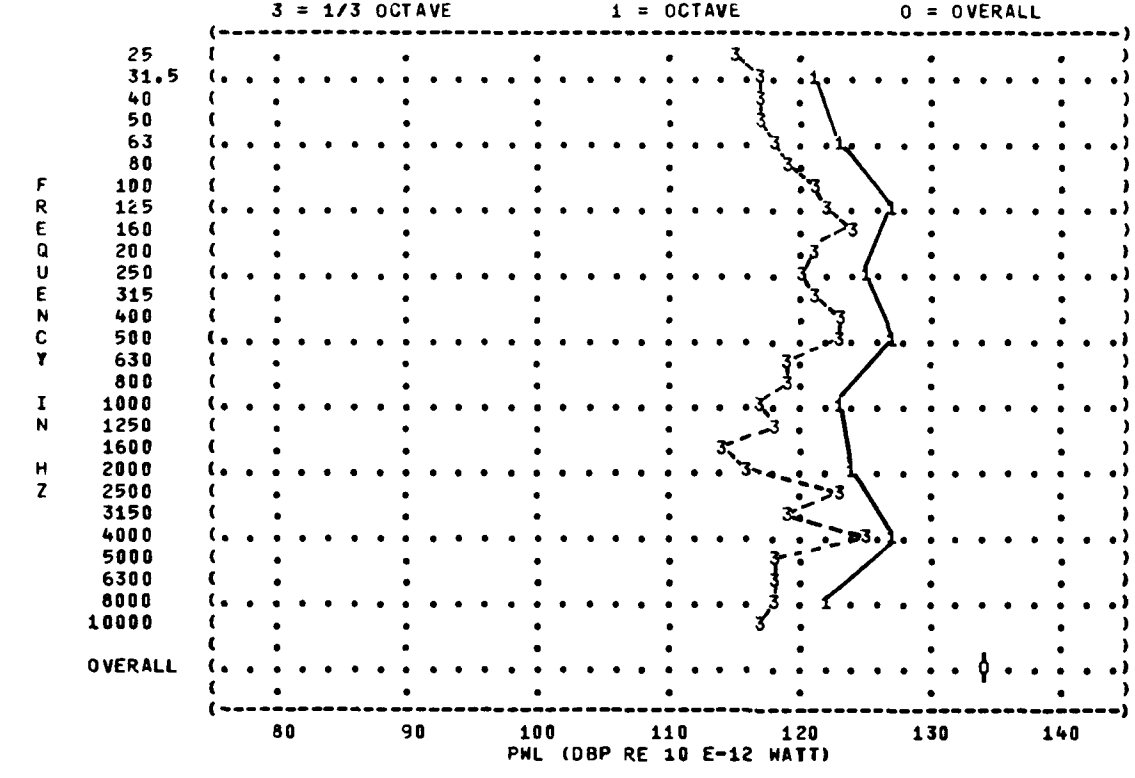
4

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
GROUND RUNUP NOISE

OPERATION:
70% RPM
FREE FLOW

METEOROLOGY:
TEMP = 28 C
BAR PRESS = .759 M HG
REL HUMID = 81 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-031
RUN 02
24 JAN 79
PAGE 3



	PWL 1/3 OCTAVE	PWL OCTAVE
25	114.5	
31.5	116.9	120.9
40	116.7	
50	117.1	
63	118.3	122.9
80	118.8	
100	121.1	
125	122.3	127.4
160	123.9	
200	121.3	
250	119.7	125.4
315	120.7	
400	122.7	
500	123.1	126.8
630	119.4	
800	119.4	
1000	117.3	123.1
1250	118.2	
1600	114.5	
2000	115.9	124.0
2500	122.6	
3150	119.5	
4000	125.1	126.8
5000	118.4	
6300	118.0	
8000	118.3	122.4
10000	116.5	
OVERALL		134.5

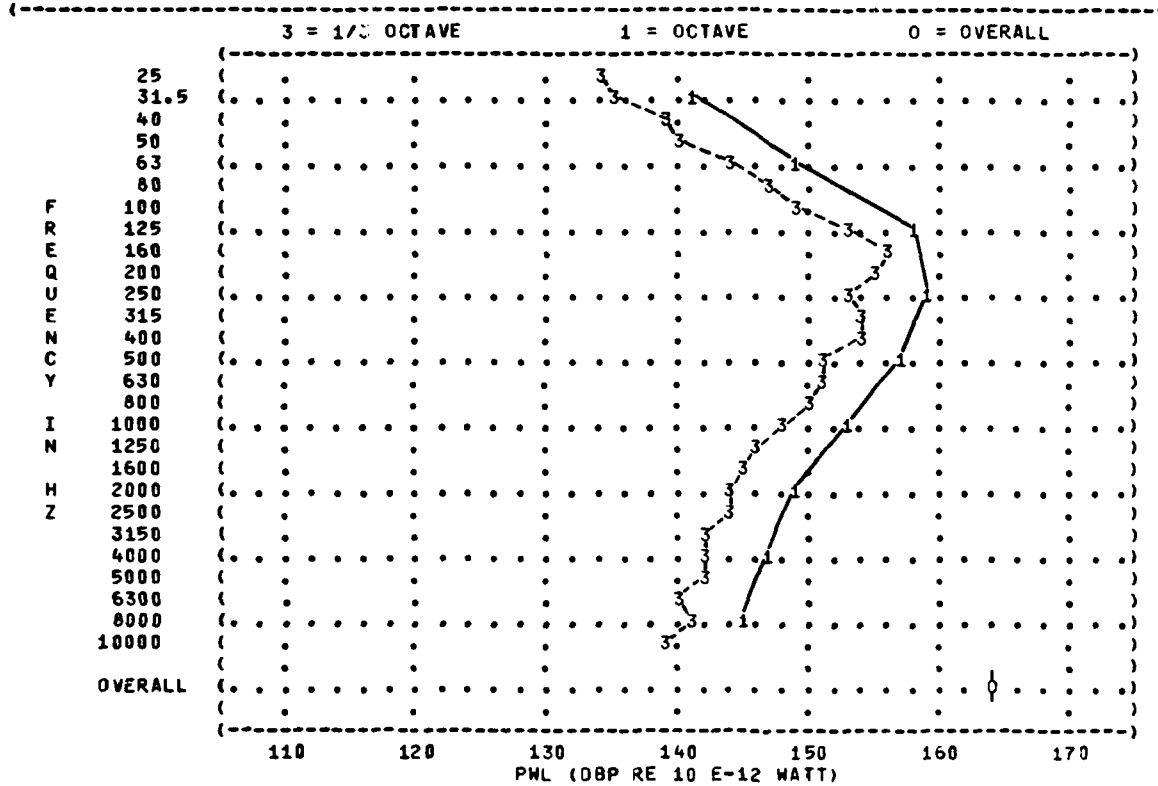
FIGURE: 4 ACOUSTIC POWER LEVEL (PWL)

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
97% RPM
DEFLECTED FLOW

METEOROLOGY:
TEMP = 31 C
BAR PRESS = .761 M HG
REL HUMID = 63 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-062
RUN 01
18 SEP 78
PAGE 3



	PWL 1/3 OCTAVE	PWL OCTAVE
25	133.6	
31.5	135.0	141.2
40	138.8	
50	140.2	
63	143.6	149.0
80	146.6	
100	149.4	
125	153.3	158.2
160	155.5	
200	154.6	
250	152.9	158.7
315	154.0	
400	154.0	
500	151.2	157.0
630	150.6	
800	149.6	
1000	148.2	152.9
1250	145.9	
1600	145.2	
2000	144.5	149.4
2500	144.0	
3150	141.7	
4000	142.3	146.7
5000	141.7	
6300	140.2	
8000	140.6	144.7
10000	139.0	
OVERALL		163.7

FIGURE: ACOUSTIC POWER LEVEL (PWL)

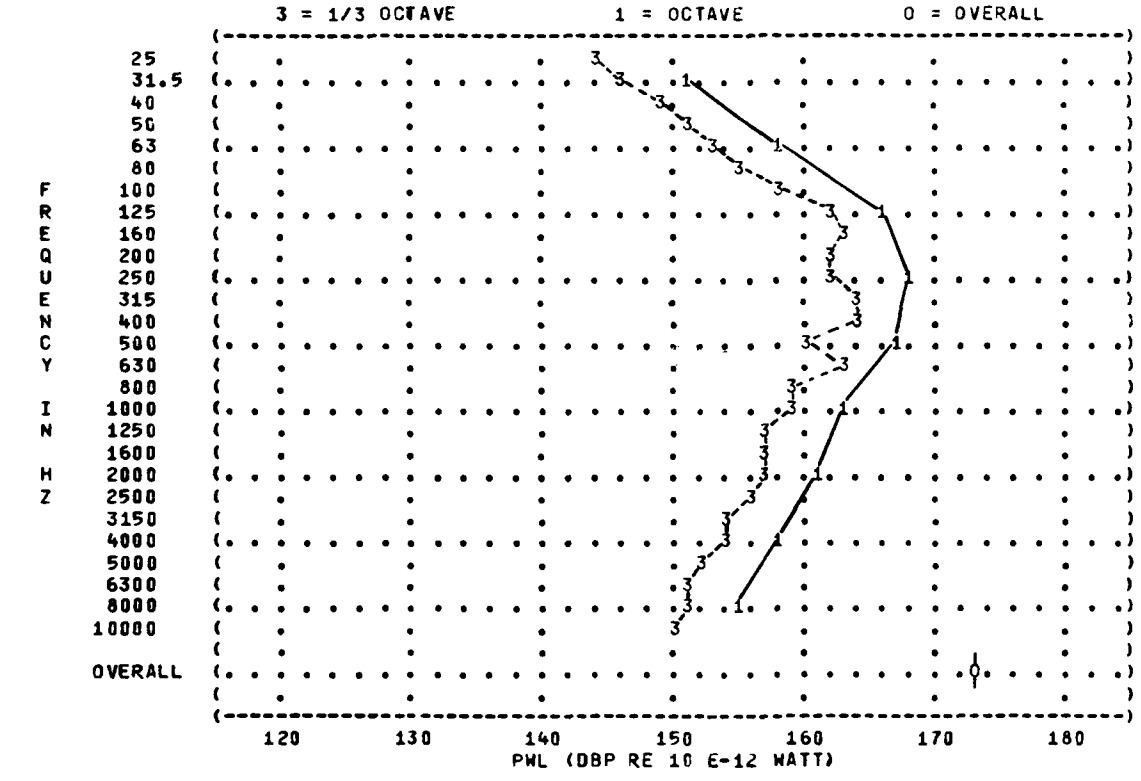
4

NOISE SOURCE/SUBJECT:
F-1000 AIRCRAFT
J57-P-21 ENGINE
FAR FIELD NOISE

OPERATION:
AFTERBURNER POWER
97% RPM
DEFLECTED FLOW

METEOROLOGY:
TEMP = 31 C
BAR PRESS = .761 M HG
REL HUMID = 63 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-062
RUN 02
18 SEP 78
PAGE 3



PWL	1/3 OCTAVE	OCTAVE
	143.9	
	145.6	151.4
	148.9	
	150.5	
	152.7	157.7
	154.6	
	157.8	
	161.9	166.2
	163.1	
	162.1	
	161.5	167.6
	164.3	
	163.9	
	160.0	167.4
	163.0	
	159.0	
	159.4	163.4
	157.4	
	156.8	
	157.3	161.5
	155.8	
	153.9	
	153.7	158.0
	151.9	
	151.0	
	150.8	155.5
	150.3	
		173.1

TABLE: DIRECTIVITY INDEX (DB)

6

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
GROUND RUNUP NOISE

OPERATION:
IDLE POWER
58% RPM
FREE FLOW

METEOROLOGY:
TEMP = 28 C
BAR PRESS = .759 M HG
REL HUMID = 81 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-031
RUN 01
18 SEP 78
PAGE 4

FREQ (HZ)	ANGLE (DEGREES) 0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
1/3 OCTAVE																			
25															7	8	9	10	11
31.5														6	7	8	6	5	9
40												2	3	5	5	7	5	3	7
50								-1			1	0	3	3	5	6	5	0	4
63													6	6	6	7			
80		-4	-4		-4	-3	-1	-2	-2	-2	0	1	3	4	3	2	-2		
100	-6	-6	-5	-4	-3	-2	0	-1	-2	-2	-1	1	4	4	2	1	-7		
125	-3	-4	-3	-2	-4	-5	-1	0	-1	-2	1	2	3	3	2	0			
160	-4	-5	-4	-4	-6	-5	-2	-3	-1	-1	1	2	5	3	1	-2			
200	-6	-7	-2	-5	-3	-5	-2	-1	-1	-1	1	2	5	2	0	-2			
250	-5	-5	-2	-3	-4	-4	-1	-2	-1	-1	1	3	4	2	-1	-4			
315	-4	-1	-2	-4	-3	-3	-2	-3	-2	-1	2	3	4	4	-1	-7			
400	-5	-3	-3	-2	-2	-4	-1	-1	0	-1	2	2	4	3	-1	-8	-22		-17
500	-3	-3	0	1	-1	-3	0	-2	-1	-1	2	0	5	1	-2	-8	-23		-20
630	-2	2	0	0	0	-2	-3	-2	-2	-1	2	2	2	2	0	-4	-21		-15
800	0	2	3	3	0	0	-1	-2	-2	-2	0	0	3	1	-3	-5	-20		-17
1000	1	2	-4	1	-1	3	-6	-4	-4	-2	-2	2	5	1	0	-3	-18	-24	-20
1250	-3	-4	-2	1	-2	9	-2	-6	-7	-6	-5	-2	3	-2	-5	-6	-19	-25	-23
1600	8	5	7	0	1	-5	-2	-7	-7	-5	-4	-3	6	1	-1	-3	-19	-25	-20
2000	6	8	7	3	4	-6	2	-4	-3	-7	-2	-5	2	-2	-4	-5	-19	-26	-22
2500	4	7	5	4	5	-1	0	-3	-6	-6	-1	-3	2	-3	-6	-4	-20	-26	-17
3150	5	7	3	6	2	1	-2	-4	-6	-3	0	-1	3	-2	-4	-6	-19	-26	-23
4000	5	6	6	7	1	3	0	-7	-7	-4	-3	-2	1	-4	-3	-5	-18	-25	-25
5000	6	5	5	2	3	-2	0	-5	-5	-3	-2	0	3	-1	-1	-2	-15	-22	-23
6300	4	4	4	5	1	-2	-1	-5	-4	-2	-2	0	4	0	0	0	-14	-21	-22
8000	4	4	4	2	1	-1	-1	-5	-5	-2	0	0	4	0	0	-2	-15	-22	-22
10000	2	2	2	2	-1	-4	-3	-6	-4	-1	0	2	5	1	1	-1	-15	-22	-21
OCTAVE																			
31.5														4	6	8	6	6	9
63								-2			-1	0	4	4	4	5	1		
125	-4	-5	-4	-3	-5	-4	-1	-2	-1	-2	1	2	4	3	2	0			
250	-5	-4	-2	-4	-3	-4	-2	-2	-1	-1	1	3	4	3	-1	-4			
500	-4	-2	-1	0	-1	-3	-1	-2	-1	-1	2	2	4	2	-1	-7	-22		-17
1000	-1	1	0	2	-1	6	-2	-4	-4	-3	-2	0	4	0	-2	-4	-19	-26	-20
2000	6	7	6	3	5	-2	0	-3	-5	-6	-2	-3	3	-2	-5	-4	-20	-26	-18
4000	5	6	5	6	2	2	-1	-5	-6	-4	-1	-1	2	-2	-3	-5	-17	-25	-23
8000	4	4	4	4	1	-2	-1	-5	-4	-2	-1	0	4	0	0	-1	-14	-21	-22
OVERALL	0	1	1	1	0	-1	-1	-2	-2	-2	0	1	4	2	0	-2	-8	-10	-7

TABLE: DIRECTIVITY INDEX (DB)

6

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
GROUND RUNUP NOISE

OPERATION:
70% RPM
FREE FLOW

METEOROLOGY:
TEMP = 28 C
BAR PRESS = .759 M HG
REL HUMID = 81 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-031
RUN 02
24 JAN 79
PAGE 4

FREQ (HZ)	ANGLE (DEGREES) 0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
1/3 OCTAVE																			
25							-2					-1	1	3	5	7	8	6	6
31.5									-5	-4	-3	-1	-2	4	6	6	9	5	6
40							-4	-3	-3	-4	-2	-3	0	3	5	5	8	5	4
50		-8	-9	-8	-7	-5	-3	-4	-4	-4	-2	-2	1	2	5	6	7	4	1
63					-6	-5	-2	-3	-3	-3	-2	-2	1	3	5	6	5	0	-3
80	-10	-8	-8	-7	-7	-5	-1	-3	-3	-3	-2	-1	2	4	4	5	4	-5	-9
100	-8	-9	-7	-6	-7	-4	-1	0	-1	-2	-1	0	2	3	4	3	-1		
125	-8	-7	-7	-6	-7	-4	0	0	-1	-2	0	1	2	4	4	0	-6		
160	-8	-6	-6	-6	-6	-4	0	1	0	0	2	1	2	3	3	-3	-10		
200	-7	-7	-5	-6	-5	-4	1	1	0	0	2	2	3	2	1	-7			
250	-7	-6	-4	-6	-5	-2	0	1	0	1	2	2	3	2	0	-10			
315	-7	-6	-6	-5	-4	-2	0	-1	-1	-3	2	1	5	4	0	-11	-17		
400	-6	-4	-4	-2	-1	-1	1	1	2	-2	2	1	3	1	-3	-13	-19		
500	-7	-3	-3	-2	0	-1	0	2	2	2	2	1	2	-3	-5	-13	-22		
630	-6	-4	-2	-3	-1	-3	-1	-1	0	3	1	-1	5	1	-2	-9	-18	-25	
800	-2	0	-1	-1	-1	0	1	0	2	-4	2	0	4	-1	-6	-10	-21	-26	
1000	3	2	1	-1	-1	1	-3	-1	0	-1	-1	1	5	0	-3	-8	-19	-25	-29
1250	7	4	2	1	0	5	-2	-2	-1	-4	-3	0	4	-4	-6	-7	-18	-25	-29
1600	6	3	1	0	-1	0	-2	-3	-1	-2	-2	0	6	0	-3	-7	-16	-23	-26
2000	5	4	3	0	3	2	4	-1	-1	-4	-2	-2	0	-1	-6	-10	-16	-23	-27
2500	5	6	7	3	4	4	4	-1	-3	-10	-6	-10	-9	-10	-13	-18	-21	-29	-32
3150	4	6	5	3	4	4	3	0	-2	-6	-3	-6	-4	-7	-9	-15	-20	-27	-31
4000	4	5	3	0	0	3	-3	-1	-1	-4	3	-2	3	-2	-7	-15	-19	-26	-28
5000	5	4	4	2	2	1	2	-2	0	-4	-1	-4	2	0	-3	-11	-19	-26	-29
6300	3	6	5	3	4	2	1	-1	0	-3	-1	-2	0	-2	-4	-9	-19	-26	-30
8000	3	2	2	1	0	1	1	-1	1	-2	1	-1	2	0	-3	-7	-14	-21	-25
10000	1	1	1	0	0	0	-1	-1	0	-2	1	0	3	1	-1	-6	-14	-20	-25
OCTAVE																			
31.5							-6		-5	-5	-3	-2	0	3	5	6	8	5	5
63		-10	-10	-9	-6	-5	-2	-3	-3	-3	-2	-2	2	3	5	6	5	0	-3
125	-8	-7	-6	-6	-6	-4	0	0	-1	-1	1	1	2	3	4	0	-5		
250	-7	-6	-5	-6	-4	-3	0	0	0	-1	2	1	3	3	1	-9			
500	-6	-4	-3	-2	-1	-2	0	1	1	1	2	0	3	-1	-4	-12	-20		
1000	4	2	1	0	-1	2	-1	-1	1	-3	0	0	4	-1	-5	-8	-19	-26	-31
2000	5	6	6	3	4	4	4	-1	-2	-7	-4	-5	-1	-5	-9	-13	-19	-26	-30
4000	4	5	4	1	1	3	0	-1	-1	-4	2	-3	2	-2	-6	-14	-19	-26	-28
8000	3	4	3	2	2	2	1	-1	0	-2	0	-1	1	-1	-3	-8	-15	-22	-26
OVERALL	0	0	0	-2	-1	0	0	0	0	-1	1	0	2	1	1	-1	-2	-6	-7

TABLE: DIRECTIVITY INDEX (DI)

6

IDENTIFICATION:

OMEGA 1.4
TEST 75-002-062
RUN 01

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
97% RPM
DEFLECTED FLOW

METEOROLOGY:
TEMP = 31 C
BAR PRESS = .761 M HG
REL HUMID = 63 %

18 SEP 78

PAGE 4

FREQ (HZ)	ANGLE (DEGREES) 0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
1/3 OCTAVE																			
25	-9	-11	-8	-11	-11	-10	-6	-3	-4	-9	-7	-5	-2	5	7	8			
31.5	-12	-12	-10	-13	-11	-10	-9	-7	-8	-7	-8	-5	-1	3	8	9			
40	-15	-14	-13	-13	-11	-12	-10	-9	-9	-9	-8	-4	-1	3	8	9			
50	-16	-17	-14	-15	-12	-13	-12	-10	-9	-10	-7	-4	0	5	8	9			
63	-17	-16	-16	-15	-14	-14	-13	-11	-10	-8	-9	-5	0	5	8	8			
80	-18	-17	-18	-16	-17	-17	-14	-13	-12	-12	-10	-5	0	6	8	7			
100	-19	-17	-18	-18	-18	-17	-16	-14	-13	-11	-10	-5	0	7	8	5			
125	-19	-20	-18	-19	-20	-17	-17	-15	-14	-12	-9	-4	2	7	8	4			
160	-21	-20	-20	-20	-19	-18	-17	-16	-15	-13	-10	-3	2	8	8	2			
200	-20	-19	-19	-19	-19	-17	-16	-15	-14	-11	-9	-4	0	7	9	2			
250	-19	-19	-20	-17	-17	-17	-16	-14	-12	-11	-8	-3	1	7	9	3			
315	-18	-18	-19	-16	-17	-16	-16	-14	-11	-9	-7	-2	3	5	9	3			
400	-14	-15	-16	-14	-15	-14	-13	-11	-9	-7	-4	0	5	7	7	0			
500	-15	-17	-17	-13	-14	-13	-12	-10	-8	-5	-3	1	4	7	7	-2			
630	-16	-16	-16	-13	-14	-13	-11	-9	-6	-5	-3	1	4	6	8	-1			
800	-16	-17	-16	-12	-13	-11	-9	-8	-6	-3	-1	2	6	5	6	-5			
1000	-15	-16	-16	-12	-12	-12	-9	-7	-3	-2	-1	2	5	5	6	-3			
1250	-15	-16	-16	-11	-11	-11	-8	-6	-3	-1	0	2	5	4	5	-3			
1600	-14	-15	-15	-11	-11	-11	-7	-4	-2	1	0	2	4	3	6	-4			
2000	-13	-10	-12	-10	-10	-10	-6	-3	0	1	0	2	4	2	5	-3			
2500	-9	-7	-8	-9	-9	-9	-5	-2	1	3	1	2	3	1	4	-2			
3150	-11	-10	-9	-9	-9	-9	-5	-2	1	3	1	1	1	3	4	-2			
4000	-12	-11	-11	-9	-11	-9	-5	-2	0	3	1	2	3	3	3	-4			
5000	-13	-11	-11	-10	-11	-10	-5	-3	0	2	1	3	4	2	2	-5			
6300	-14	-12	-12	-11	-12	-9	-5	-3	0	2	1	3	4	1	2	-5			
8000	-15	-13	-13	-12	-12	-9	-5	-3	1	2	3	3	3	1	2	-6			
10000	-16	-15	-14	-13	-13	-10	-6	-4	-1	1	2	6	3	1	1	-6			
OCTAVE																			
31.5	-13	-13	-11	-13	-11	-11	-9	-7	-7	-8	-8	-4	-1	3	8	9			
63	-17	-17	-17	-15	-15	-15	-14	-12	-11	-10	-9	-5	0	6	8	8			
125	-20	-19	-19	-20	-19	-18	-17	-16	-14	-12	-10	-3	2	7	8	3			
250	-19	-19	-19	-17	-18	-17	-16	-14	-12	-10	-8	-3	1	7	9	3			
500	-15	-16	-16	-13	-14	-14	-12	-10	-8	-6	-3	0	4	7	7	-1			
1000	-16	-16	-16	-12	-12	-11	-9	-7	-4	-2	-1	2	5	5	6	-4			
2000	-12	-10	-11	-10	-10	-10	-6	-3	0	2	0	2	4	2	5	-3			
4000	-12	-10	-10	-9	-10	-9	-5	-2	0	3	1	2	3	3	3	-3			
8000	-15	-13	-13	-12	-12	-9	-5	-3	0	2	2	4	4	1	2	-5			
OVERALL	-17	-17	-17	-15	-15	-15	-13	-11	-8	-6	-5	-1	3	7	8	2			

TABLE: DIRECTIVITY INDEX (DB)

6

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
FAR FIELD NOISE

OPERATION:
AFTERBURNER POWER
97% RPM
DEFLECTED FLOW

METEOROLOGY:
TEMP = 31 C
BAR PRESS = .761 M HG
REL HUMID = 63 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-062
RUN 02
18 SEP 78
PAGE 4

FREQ (HZ)	ANGLE (DEGREES) 0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
1/3 OCTAVE																			
25	-11	-10	-11	-12	-11	-9	-8	-8	-8	-8	-8	-6	0	4	6	9	6		
31.5	-11	-12	-12	-11	-12	-10	-8	-8	-8	-9	-8	-5	-1	4	7	8	5		
40	-14	-14	-15	-13	-13	-11	-10	-11	-8	-9	-8	-5	0	5	8	8	0		
50	-16	-17	-16	-15	-13	-13	-12	-11	-11	-10	-8	-3	1	7	7	6	-5		
63	-17	-17	-16	-15	-14	-13	-13	-11	-10	-10	-9	-4	2	7	8	5	-7		
80	-17	-17	-16	-15	-15	-13	-13	-13	-11	-10	-8	-3	4	7	7	4	-10		
100	-20	-20	-18	-16	-17	-15	-15	-14	-13	-11	-9	-2	5	8	6	3	-14		
125	-20	-21	-19	-19	-18	-16	-17	-15	-14	-12	-9	-1	7	7	5	1	-19		
160	-21	-22	-20	-20	-18	-16	-17	-15	-13	-11	-9	-1	7	6	5	1	-17		
200	-21	-22	-20	-19	-18	-17	-16	-14	-13	-10	-7	-1	7	7	5	1	-19		
250	-21	-21	-21	-19	-18	-15	-17	-15	-13	-10	-7	0	7	7	5	1	-22		
315	-23	-21	-21	-18	-18	-16	-16	-13	-12	-9	-6	1	6	7	4	1	-26		
400	-19	-21	-21	-18	-15	-14	-15	-12	-10	-7	-3	1	6	7	3	0	-24		
500	-19	-20	-20	-17	-15	-14	-14	-11	-9	-6	-1	3	6	7	3	-1	-21		
630	-24	-22	-21	-17	-17	-13	-15	-11	-9	-6	-3	3	6	7	2	-1	-23		
800	-21	-23	-21	-17	-13	-12	-14	-9	-7	-4	2	3	6	6	1	-2	-21		
1000	-24	-24	-21	-18	-14	-12	-14	-8	-7	-4	0	3	6	6	1	-4	-21		
1250	-24	-24	-22	-18	-15	-11	-14	-8	-6	-3	1	3	6	6	0	-5	-20		
1600	-24	-24	-22	-19	-14	-11	-14	-7	-5	-2	1	4	6	6	-1	-5	-21		
2000	-21	-20	-21	-19	-15	-11	-14	-7	-5	-2	0	4	6	5	-1	-4	-22		
2500	-18	-15	-18	-18	-14	-10	-14	-6	-5	-1	1	4	6	5	-1	-4	-24		
3150	-22	-19	-20	-18	-14	-10	-13	-7	-4	-1	1	4	6	6	-2	-5	-23		
4000	-22	-21	-21	-18	-14	-10	-13	-6	-4	-1	1	4	6	5	-2	-6	-23		
5000	-21	-20	-20	-18	-14	-10	-13	-6	-4	-1	1	4	6	5	-1	-6	-24		
6300	-22	-22	-20	-18	-15	-11	-13	-6	-4	-1	1	4	6	6	-1	-6	-25		
8000	-23	-22	-21	-19	-15	-11	-13	-7	-5	-1	1	4	6	5	-2	-5	-26		
10000	-24	-23	-22	-20	-17	-12	-14	-8	-6	-1	1	4	6	6	-1	-6	-27		
OCTAVE																			
31.5	-13	-13	-13	-12	-12	-10	-9	-9	-8	-9	-8	-5	0	5	7	8	3		
63	-17	-17	-16	-15	-14	-13	-13	-12	-10	-10	-8	-3	3	7	7	5	-8		
125	-20	-21	-19	-19	-18	-16	-16	-15	-13	-11	-9	-1	7	7	5	1	-17		
250	-22	-21	-21	-18	-18	-16	-16	-14	-12	-10	-6	0	6	7	5	1	-22		
500	-20	-21	-21	-17	-16	-14	-15	-11	-10	-6	-3	2	6	7	3	0	-23		
1000	-23	-24	-21	-18	-14	-12	-14	-9	-7	-4	1	3	6	6	1	-4	-21		
2000	-21	-18	-20	-19	-15	-10	-14	-7	-5	-2	1	4	6	5	-1	-4	-22		
4000	-22	-20	-20	-18	-14	-10	-13	-6	-4	-1	1	4	6	5	-2	-6	-23		
8000	-23	-22	-21	-19	-15	-11	-13	-7	-5	-1	1	4	6	5	-1	-6	-26		
OVERALL	-21	-21	-20	-18	-16	-14	-15	-11	-9	-6	-3	1	6	7	4	0	-15		

FIGURE: 5 OVERALL SOUND PRESSURE LEVEL (OASPL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-031
RUN 01
18 SEP 78
PAGE 13

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
GROUND RUNUP NOISE

OPERATION:
IDLE POWER
58% RPM
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

POINT	DB
A	45
B	50
C	55
D	60
E	65
F	70
G	75
H	80
I	85

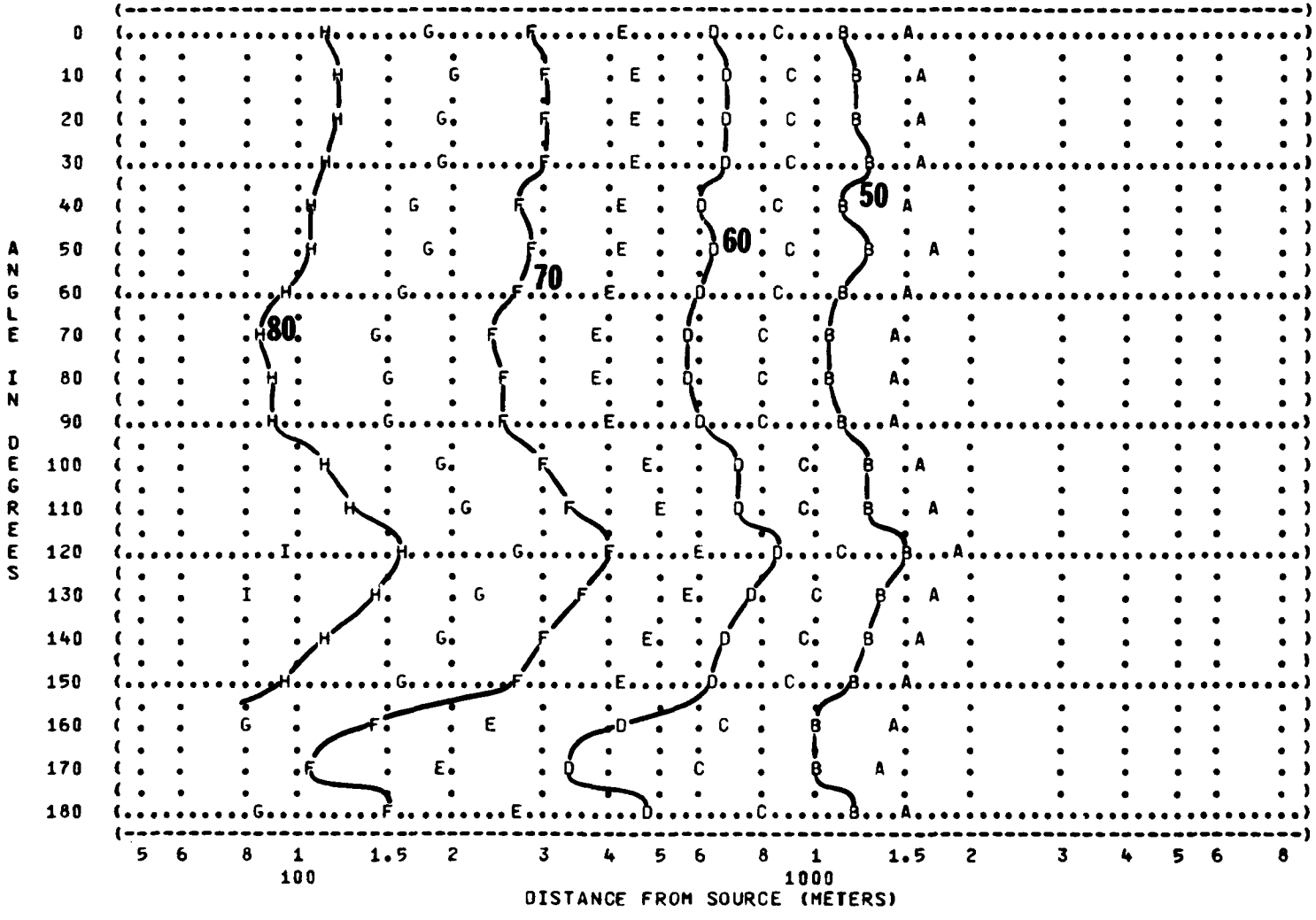


FIGURE 5: OVERALL SOUND PRESSURE LEVEL (OASPL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-031
RUN 02
24 JAN 79
PAGE 13

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
GROUND RUNUP NOISE

OPERATION:
70% RPM
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

POINT	DB
A	45
B	50
C	55
D	60
E	65
F	70
G	75
H	80
I	85
J	90

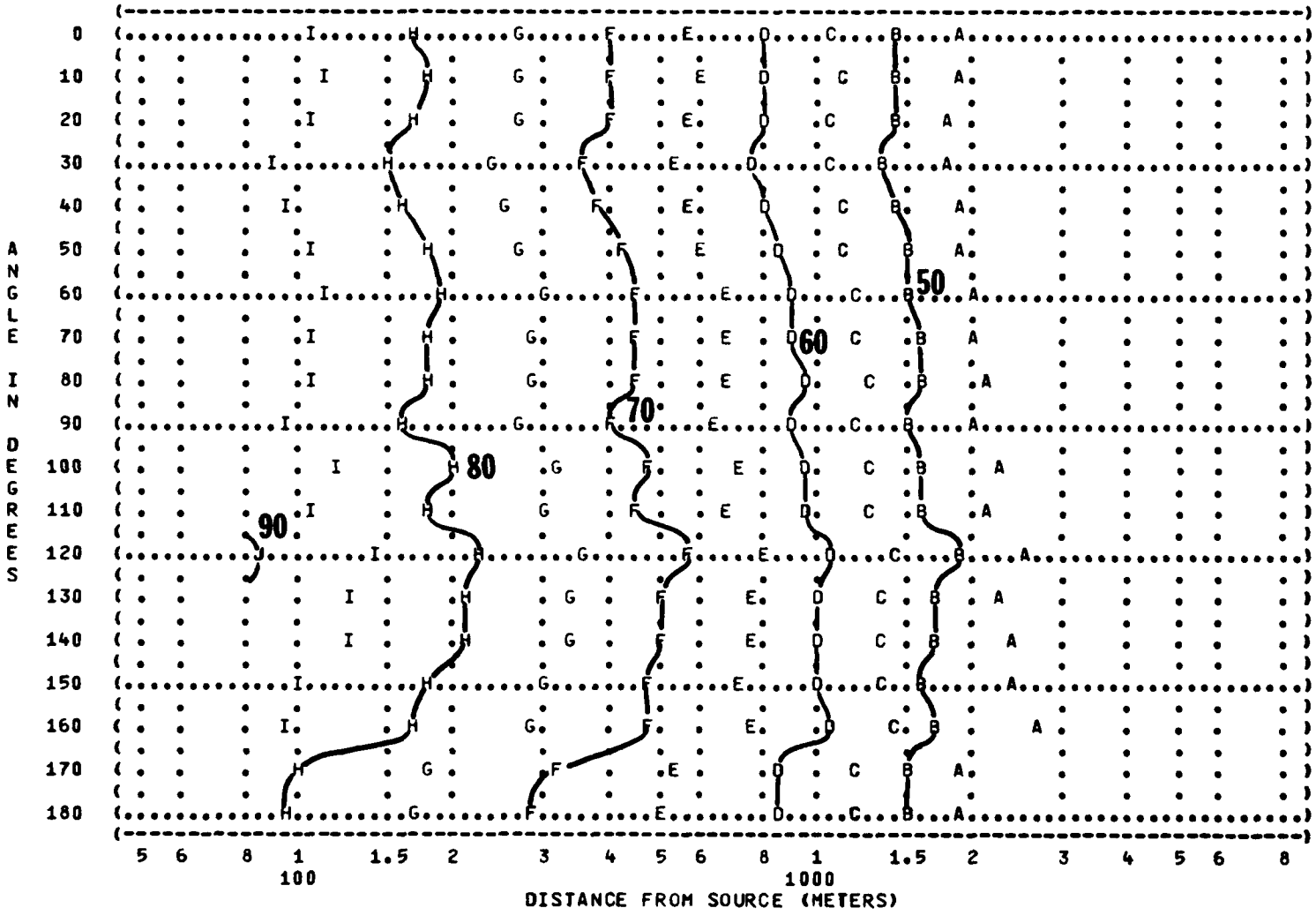


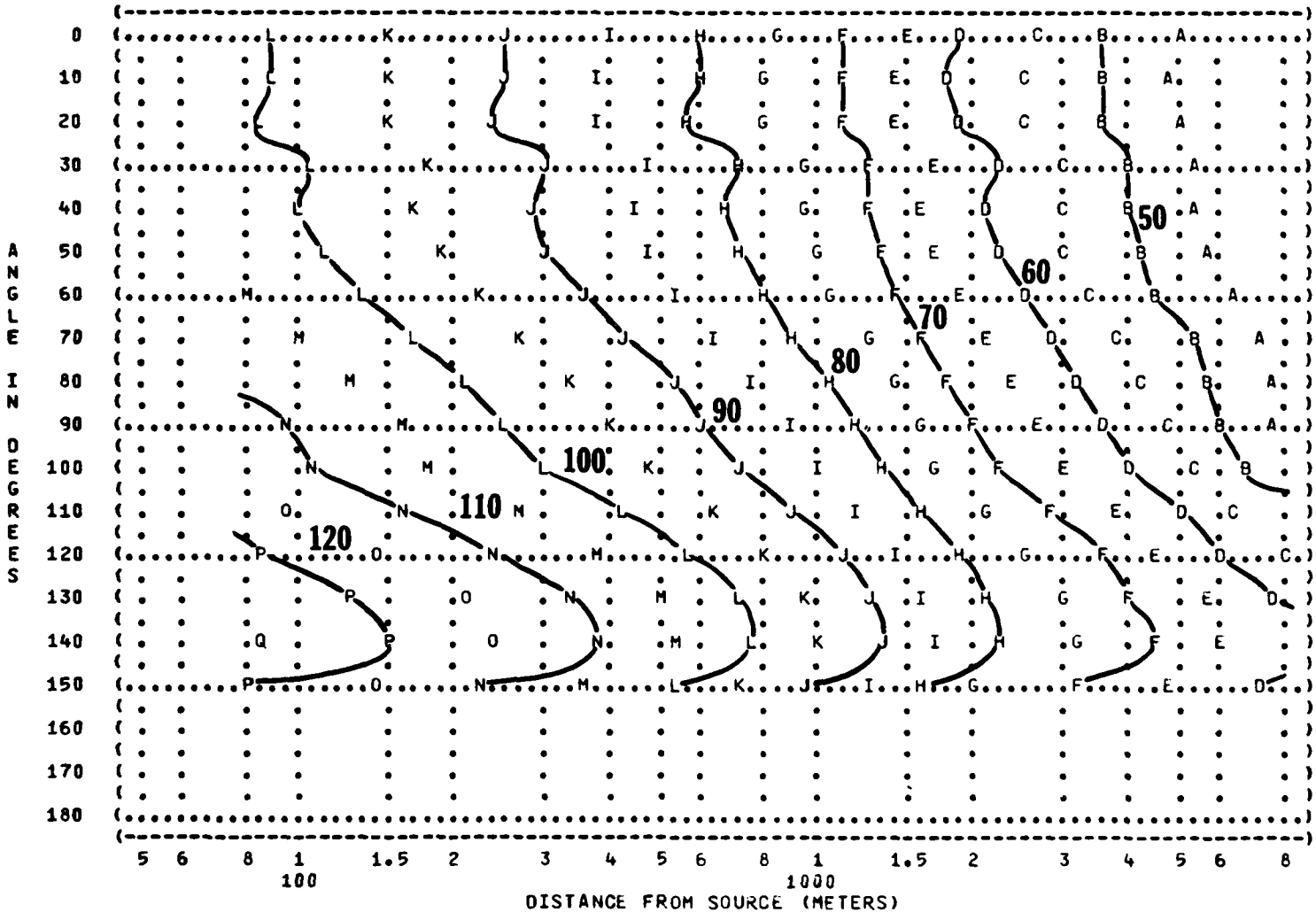
FIGURE 5 OVERALL SOUND PRESSURE LEVEL (OASPL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-062
RUN 01
18 SEP 78
PAGE 13

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
97% RPM
DEFLECTED FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %



POINT	DB
A	45
B	50
C	55
D	60
E	65
F	70
G	75
H	80
I	85
J	90
K	95
L	100
M	105
N	110
O	115
P	120
Q	125

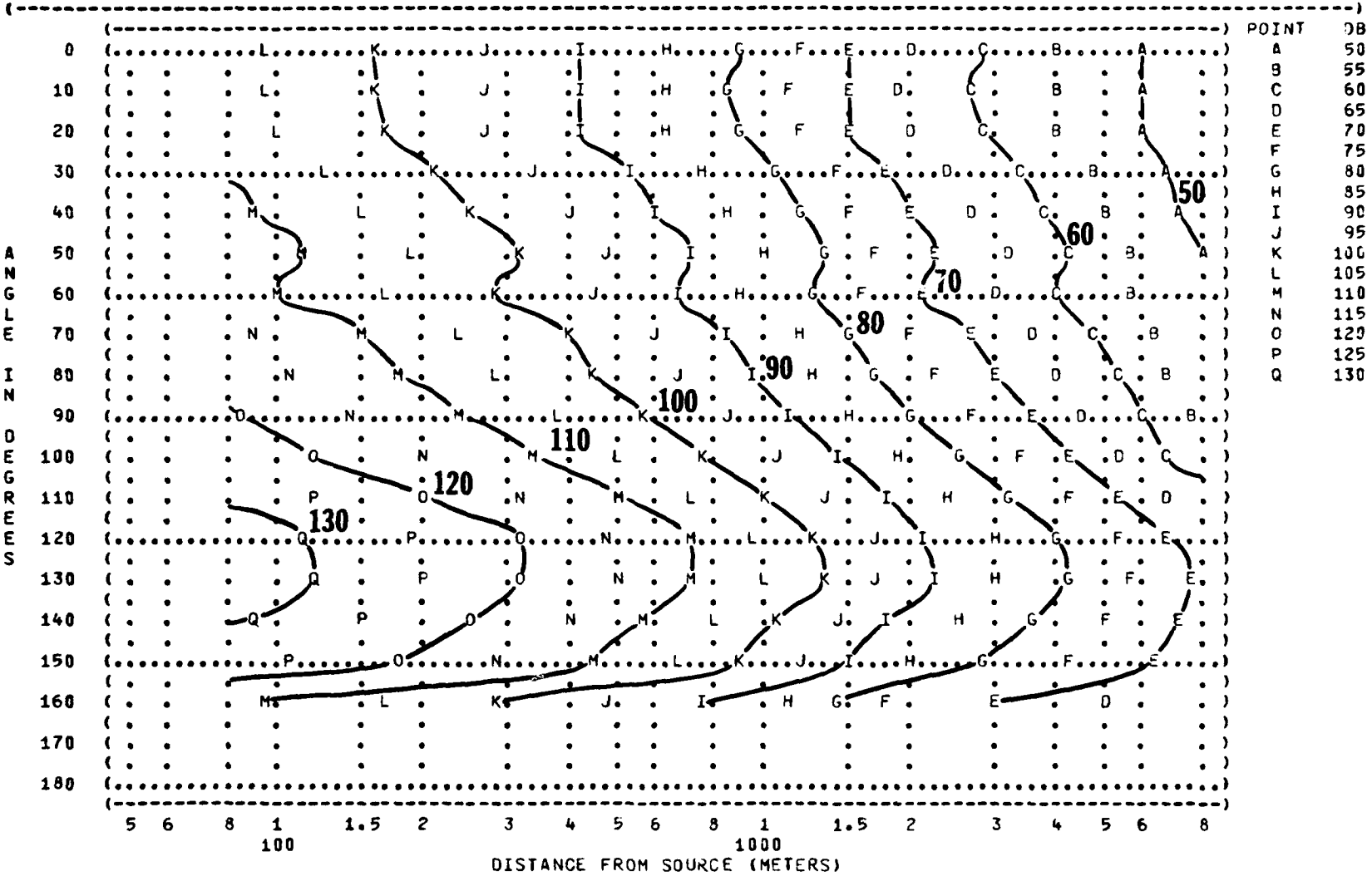
FIGURE 5 OVERALL SOUND PRESSURE LEVEL (OASPL) EQUAL LEVEL CONTOURS (DB)

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
FAR FIELD NOISE

OPERATION:
AFTERBURNER POWER
97% RPM
DEFLECTED FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-062
RUN 02
18 SEP 78
PAGE 13



POINT	DB
A	50
B	55
C	60
D	65
E	70
F	75
G	80
H	85
I	90
J	95
K	100
L	105
M	110
N	115
O	120
P	125
Q	130

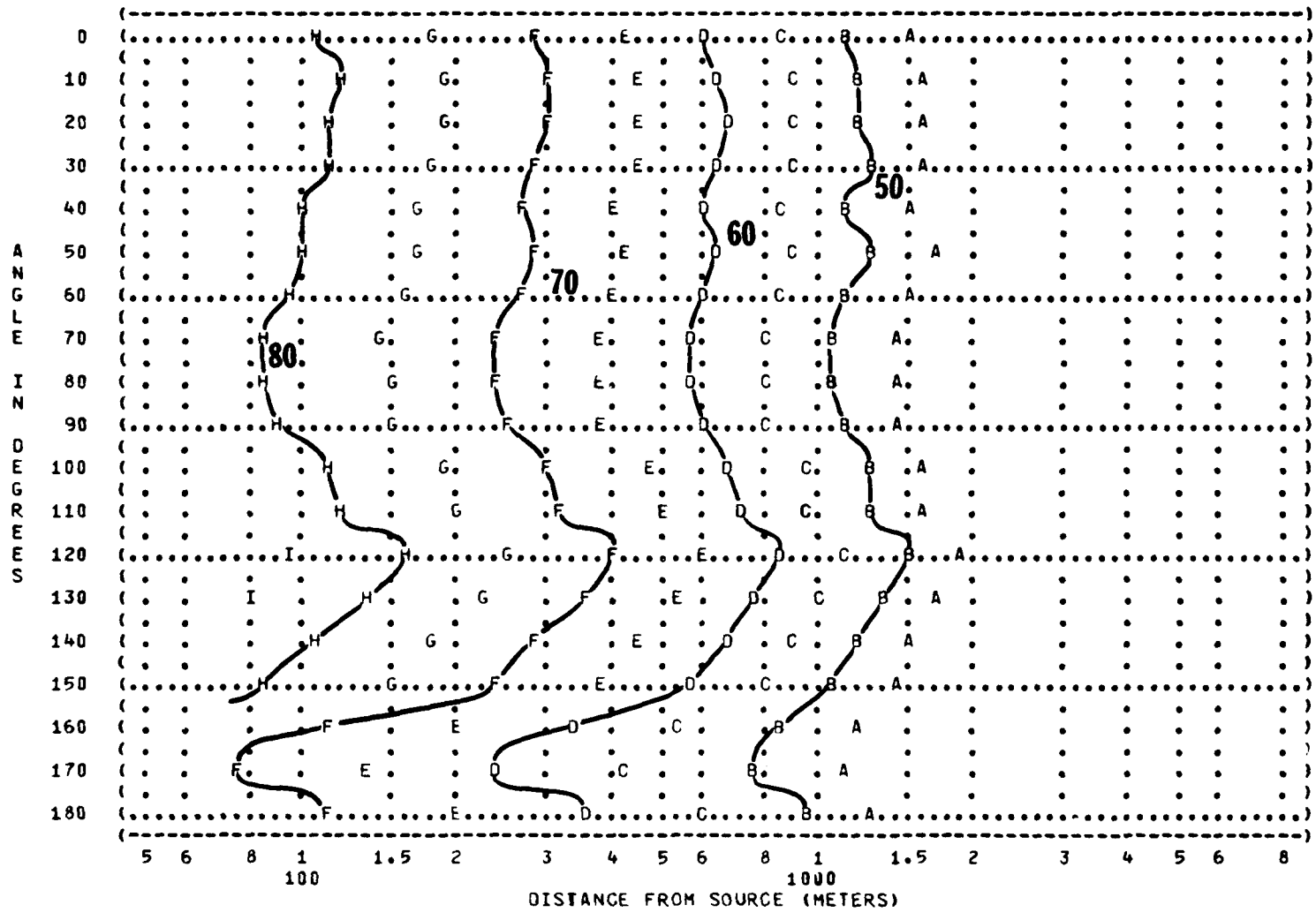
FIGURE 6 C-WEIGHTED OVERALL SOUND LEVEL (OASLC) EQUAL LEVEL CONTOURS (DBC)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-031
RUN 01
18 SEP 78
PAGE 14

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
GROUND RUNUP NOISE

OPERATION:
IDLE POWER
58% RPM
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %



POINT	DBC
A	45
B	50
C	55
D	60
E	65
F	70
G	75
H	80
I	85

FIGURE 6: C-WEIGHTED OVERALL SOUND LEVEL (OASLC) EQUAL LEVEL CONTOURS (DBC)

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
GROUND RUNUP NOISE

OPERATION:
70% RPM
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-031
RUN 02
24 JAN 79
PAGE 14

POINT	DBC
A	45
B	50
C	55
D	60
E	65
F	70
G	75
H	80
I	85
J	90

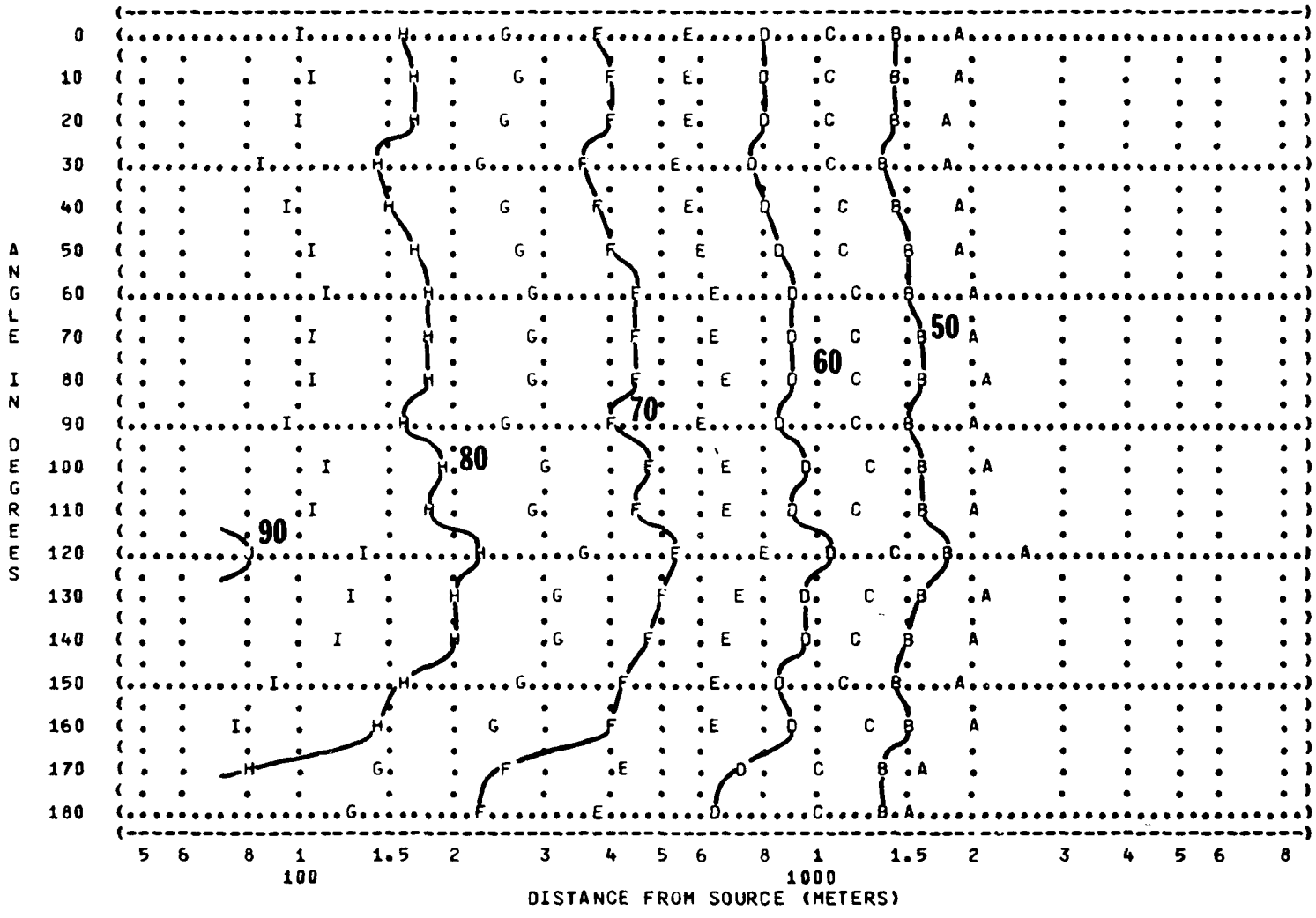


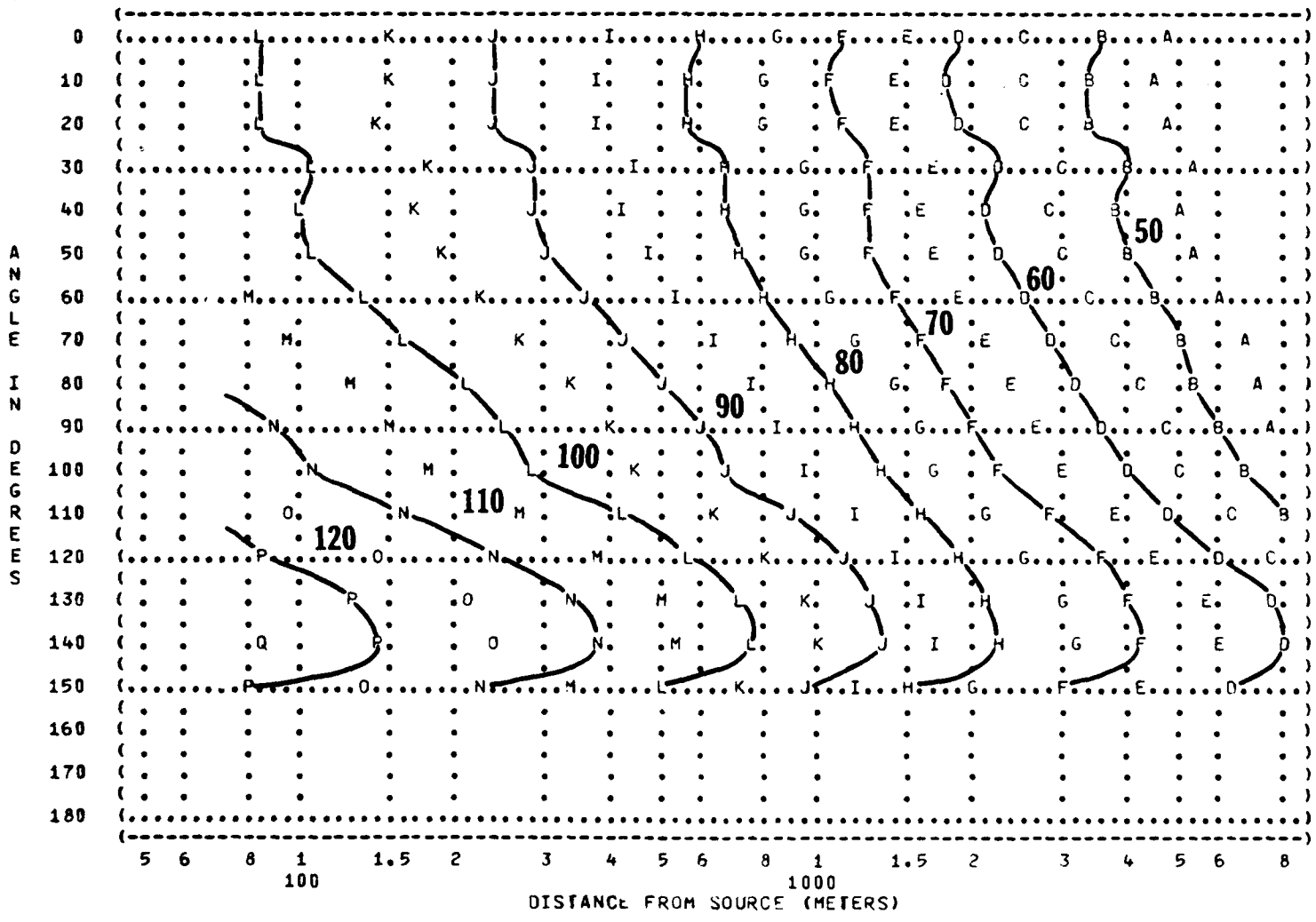
FIGURE 6: C-WEIGHTED OVERALL SOUND LEVEL (OASLC) EQUAL LEVEL CONTOURS (DBC)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-062
RUN 01
18 SEP 78
PAGE 14

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
97% RPM
DEFLECTED FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %



POINT	DBC
A	45
B	50
C	55
D	60
E	65
F	70
G	75
H	80
I	85
J	90
K	95
L	100
M	105
N	110
O	115
P	120
Q	125

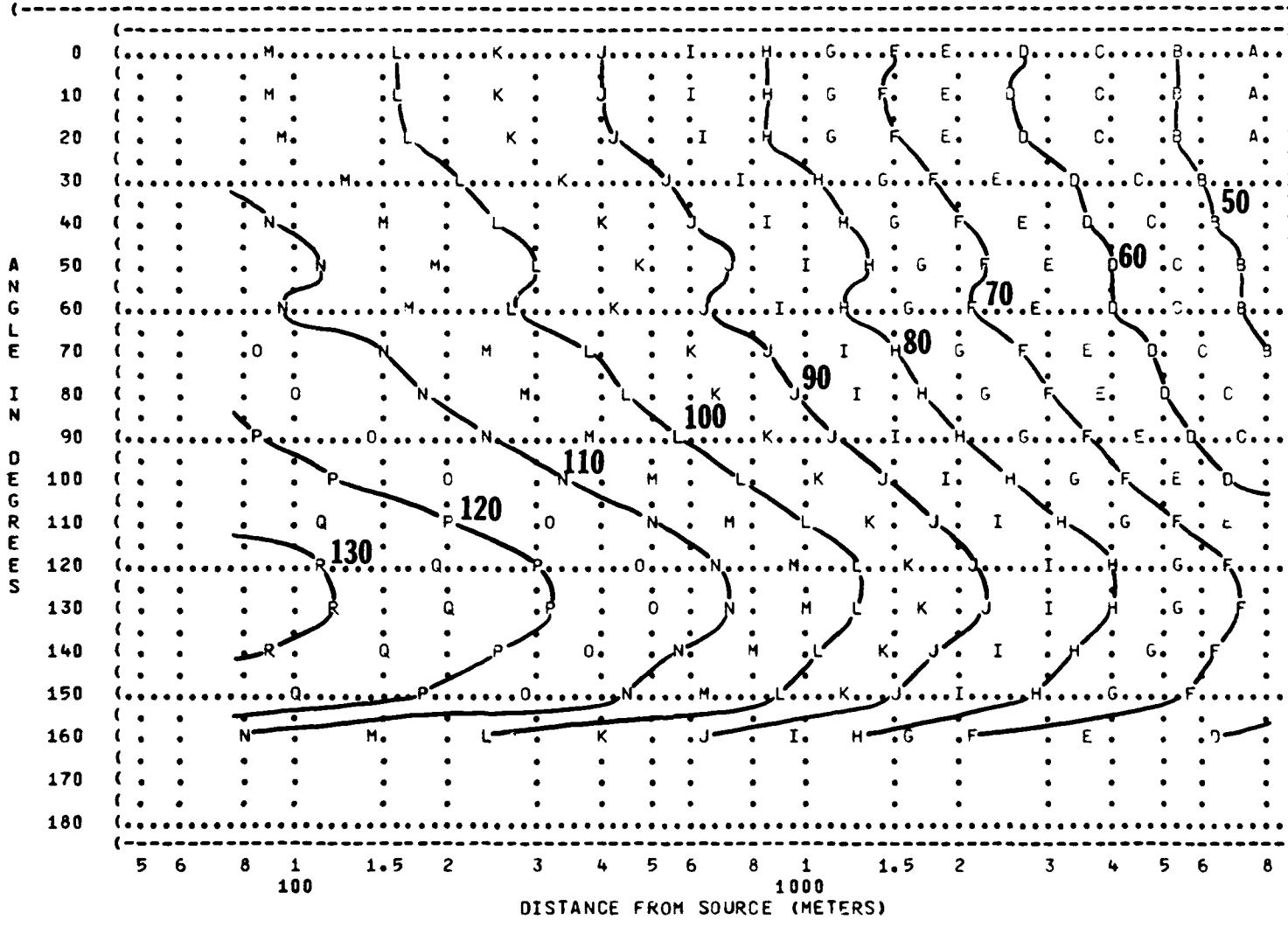
FIGURE 6: C-WEIGHTED OVERALL SOUND LEVEL (OASLC) EQUAL LEVEL CONTOURS (DBC)

IDENTIFICATION:
OMEGA 1.4
TEST 75-902-062
RUN 02
18 SEP 78
PAGE 14

NOISE SOURCE/SUBJECT:
F-1000 AIRCRAFT
J57-P-21 ENGINE
FAR FIELD NOISE

OPERATION:
AFTERBURNER POWER
97% RPM
DEFLECTED FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %



POINT	DBC
A	45
B	50
C	55
D	60
E	65
F	70
G	75
H	80
I	85
J	90
K	95
L	100
M	105
N	110
O	115
P	120
Q	125
R	130

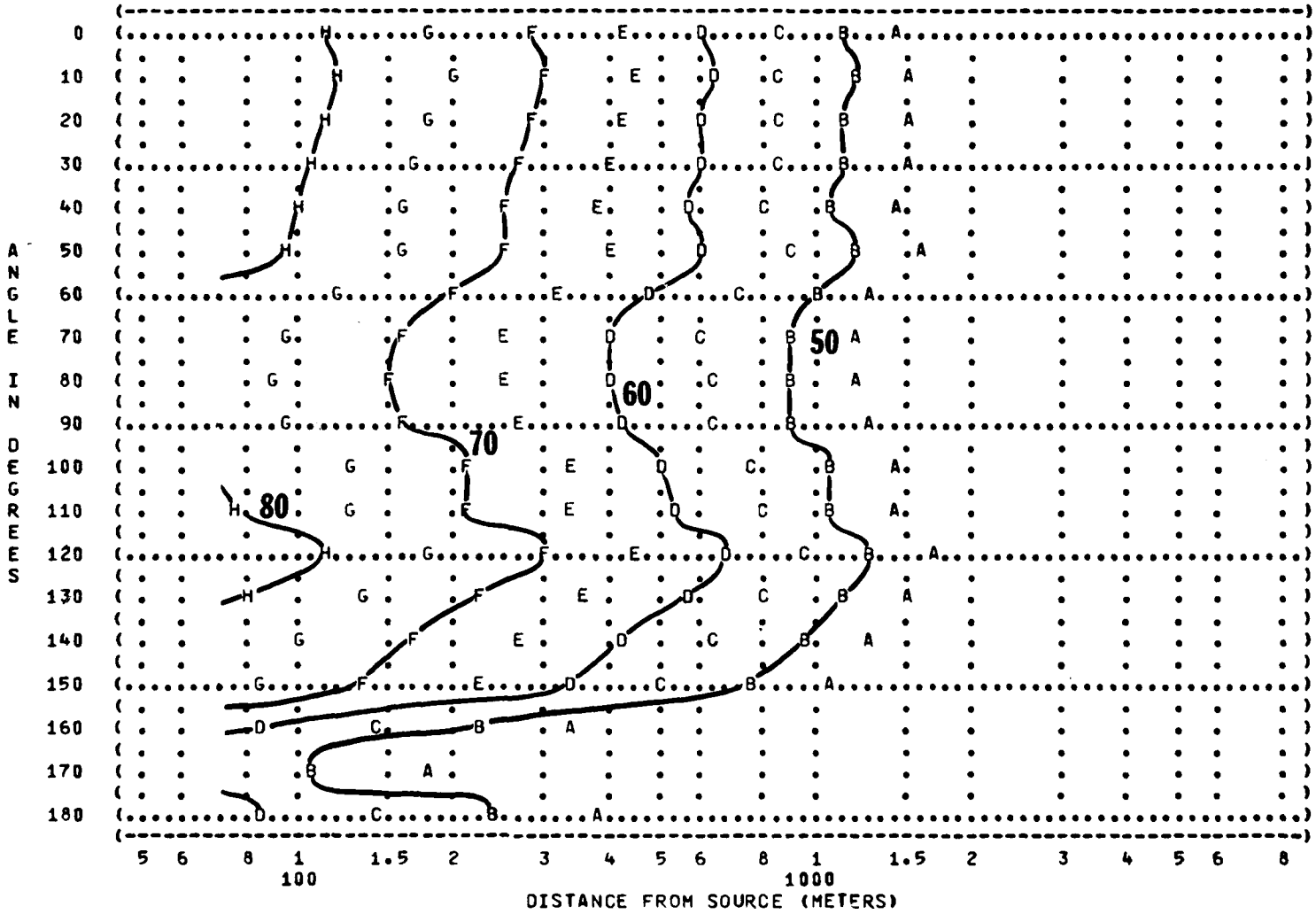
FIGURE: 7 A-WEIGHTED OVERALL SOUND LEVEL (OASLA) EQUAL LEVEL CONTOURS (DBA)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-031
RUN 01
18 SEP 78
PAGE 15

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
GROUND RUNUP NOISE

OPERATION:
IDLE POWER
58% RPM
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %



POINT	DBA
A	45
B	50
C	55
D	60
E	65
F	70
G	75
H	80

FIGURE: 7 A-WEIGHTED OVERALL SOUND LEVEL (OASLA) EQUAL LEVEL CONTOURS (OBA)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-031
RUN 02
24 JAN 79
PAGE 15

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
GROUND RUNUP NOISE

OPERATION:
70% RPM
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

POINT	DBA
A	45
B	50
C	55
D	60
E	65
F	70
G	75
H	80
I	85

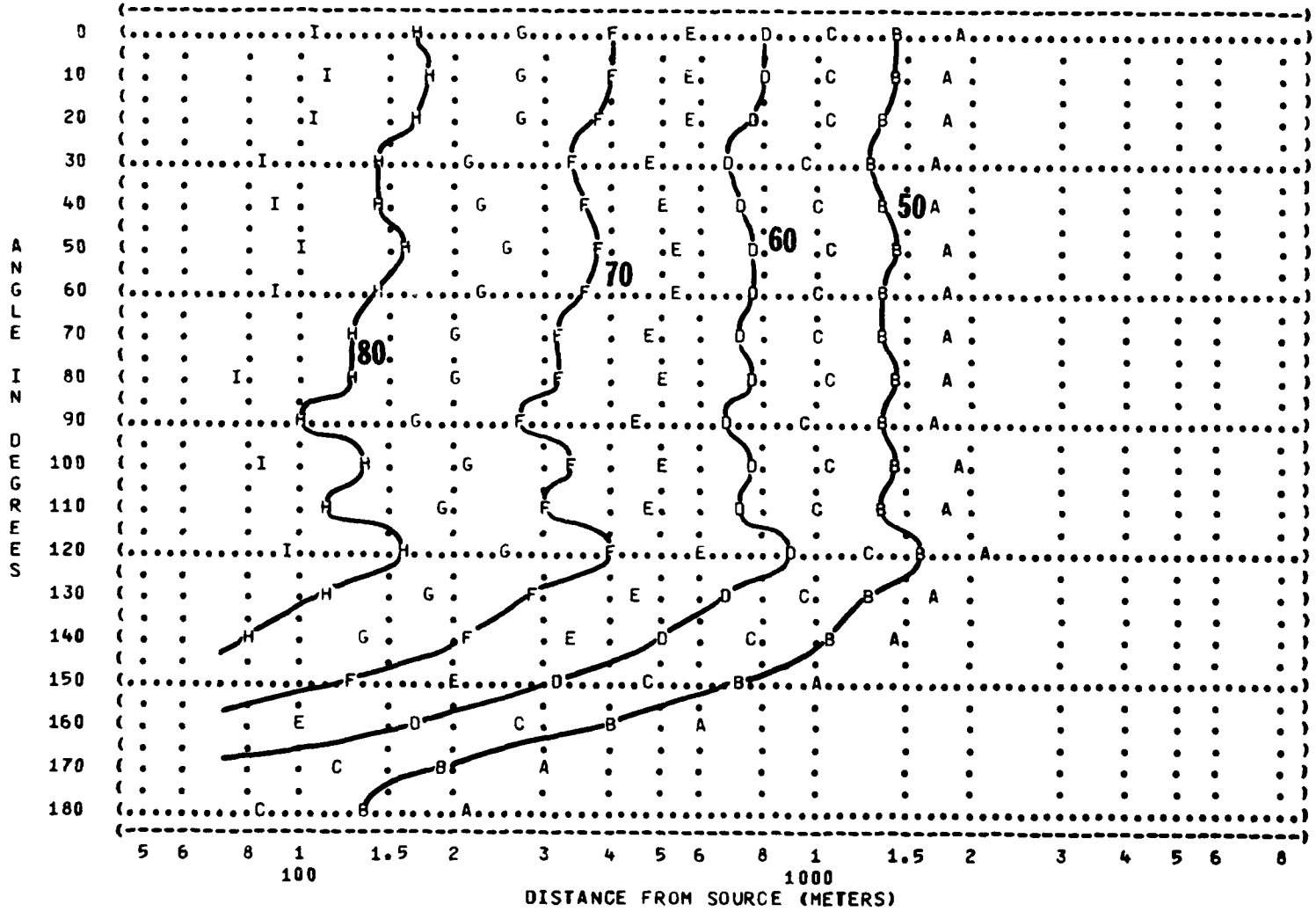


FIGURE: 7

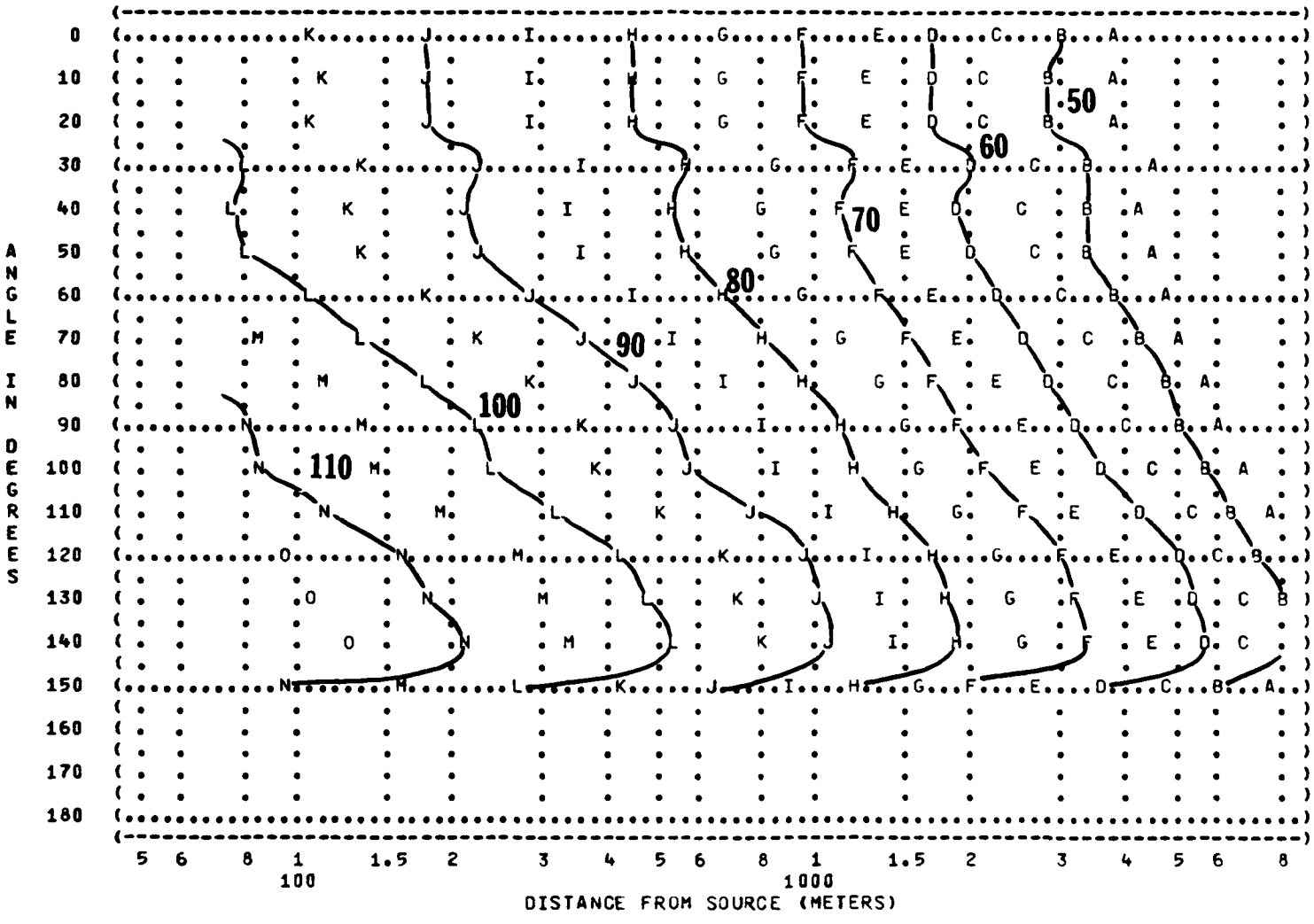
A-WEIGHTED OVERALL SOUND LEVEL (OASLA)
EQUAL LEVEL CONTOURS (DBA)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-062
RUN 01
18 SEP 78
PAGE 15

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
97% RPM
DEFLECTED FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %



POINT	DBA
A	45
B	50
C	55
D	60
E	65
F	70
G	75
H	80
I	85
J	90
K	95
L	100
M	105
N	110
O	115

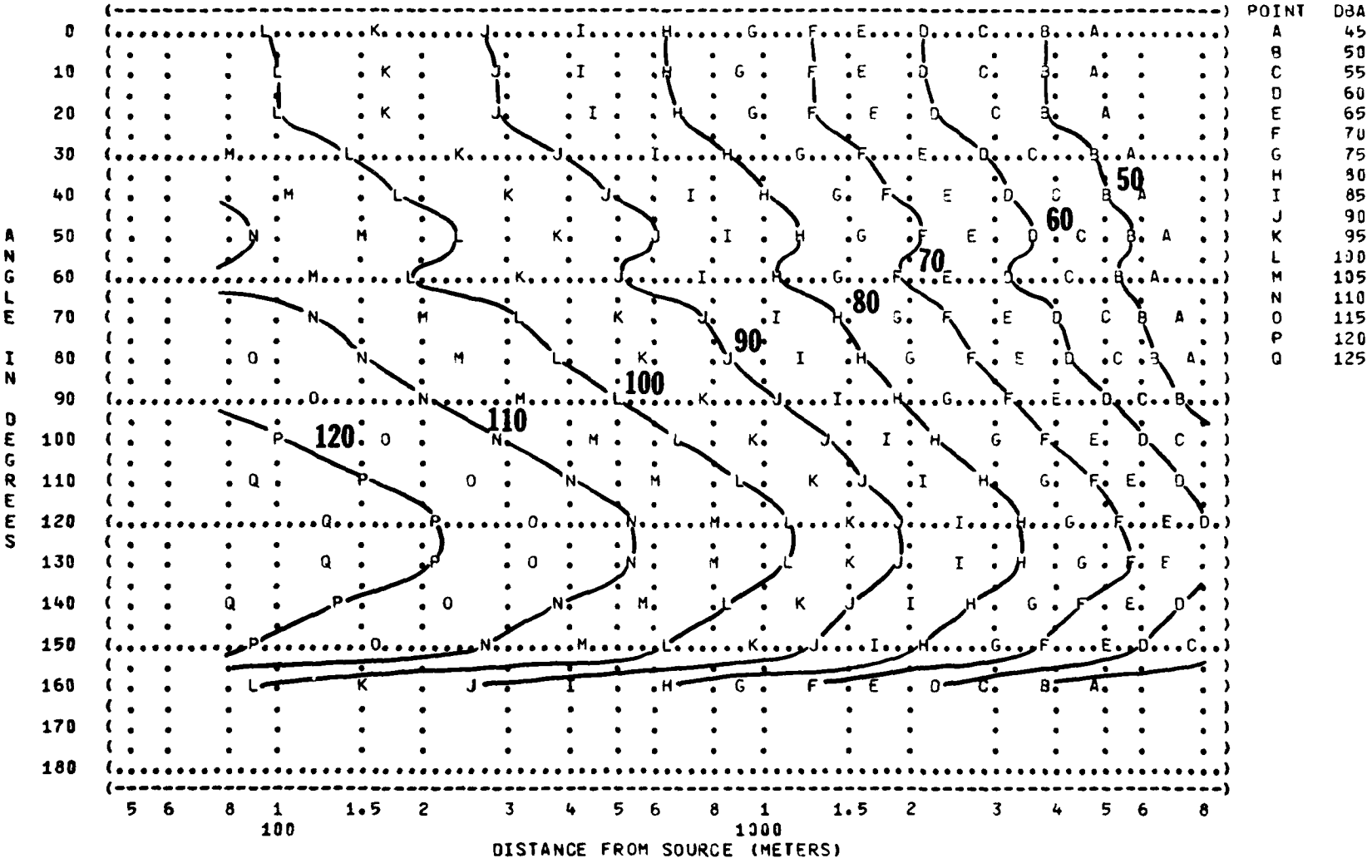
FIGURE 7 A-WEIGHTED OVERALL SOUND LEVEL (OASLA) EQUAL LEVEL CONTOURS (DBA)

IDENTIFICATION:
OMEGA 1.4
TEST 75-902-062
RUN 02
18 SEP 78
PAGE 15

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
FAR FIELD NOISE

OPERATION:
AFTERBURNER POWER
97% RPM
DEFLECTED FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %



POINT	DBA
A	45
B	50
C	55
D	60
E	65
F	70
G	75
H	80
I	85
J	90
K	95
L	100
M	105
N	110
O	115
P	120
Q	125

FIGURE: 8 PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT)
EQUAL LEVEL CONTOURS (PNDB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-031
RUN 01
18 SEP 78
PAGE 16

NOISE SOURCE/SUBJECT:
F-1000 AIRCRAFT
J57-P-21 ENGINE
GROUND RUNUP NOISE

OPERATION:
IDLE POWER
58% RPM
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

POINT	PNDB
A	60
B	65
C	70
D	75
E	80
F	85
G	90
H	95
I	100

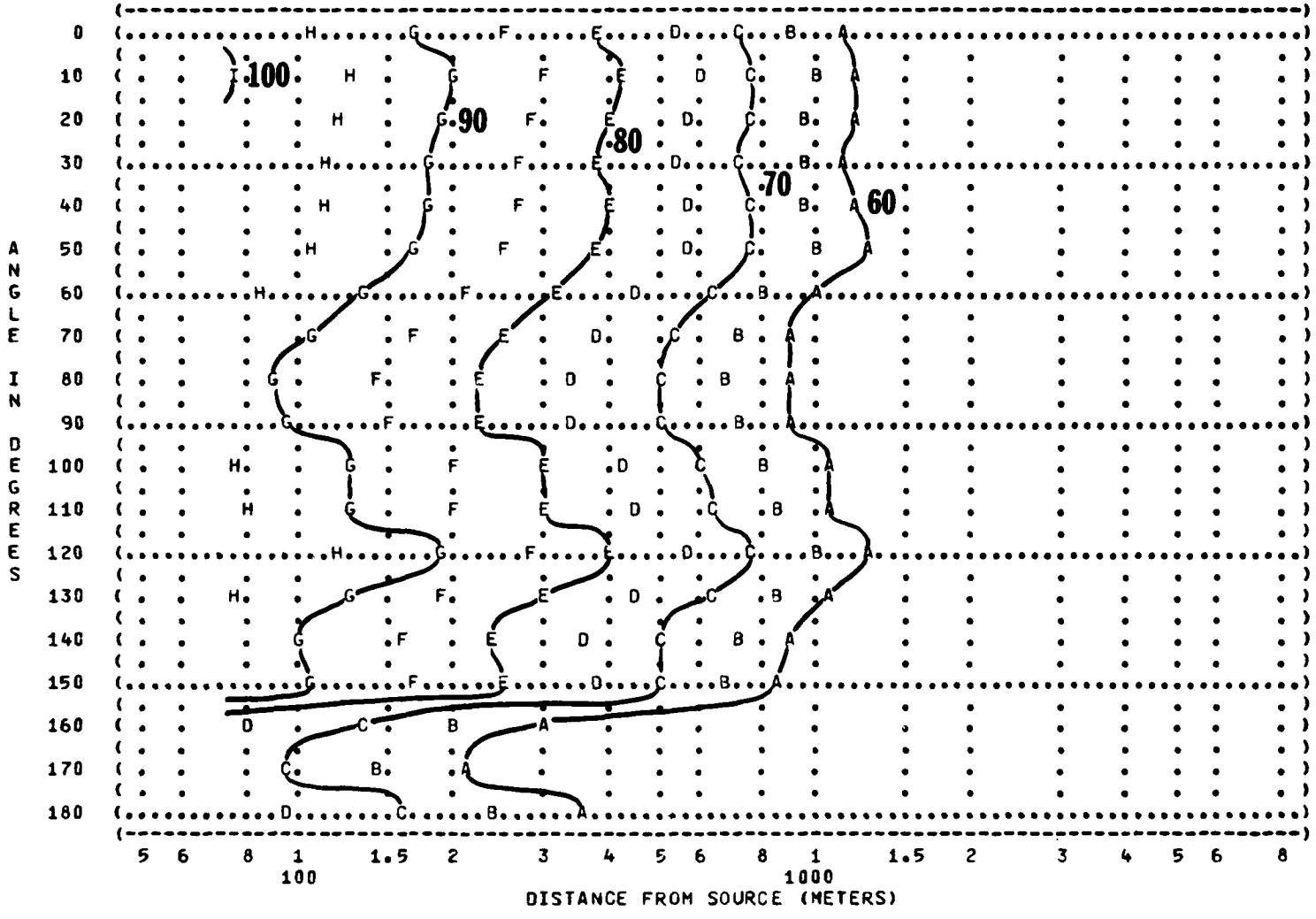


FIGURE 8: PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT) EQUAL LEVEL CONTOURS (PNDB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-031
RUN 02
24 JAN 79
PAGE 16

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
GROUND RUNUP NOISE

OPERATION:
70% RPM
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

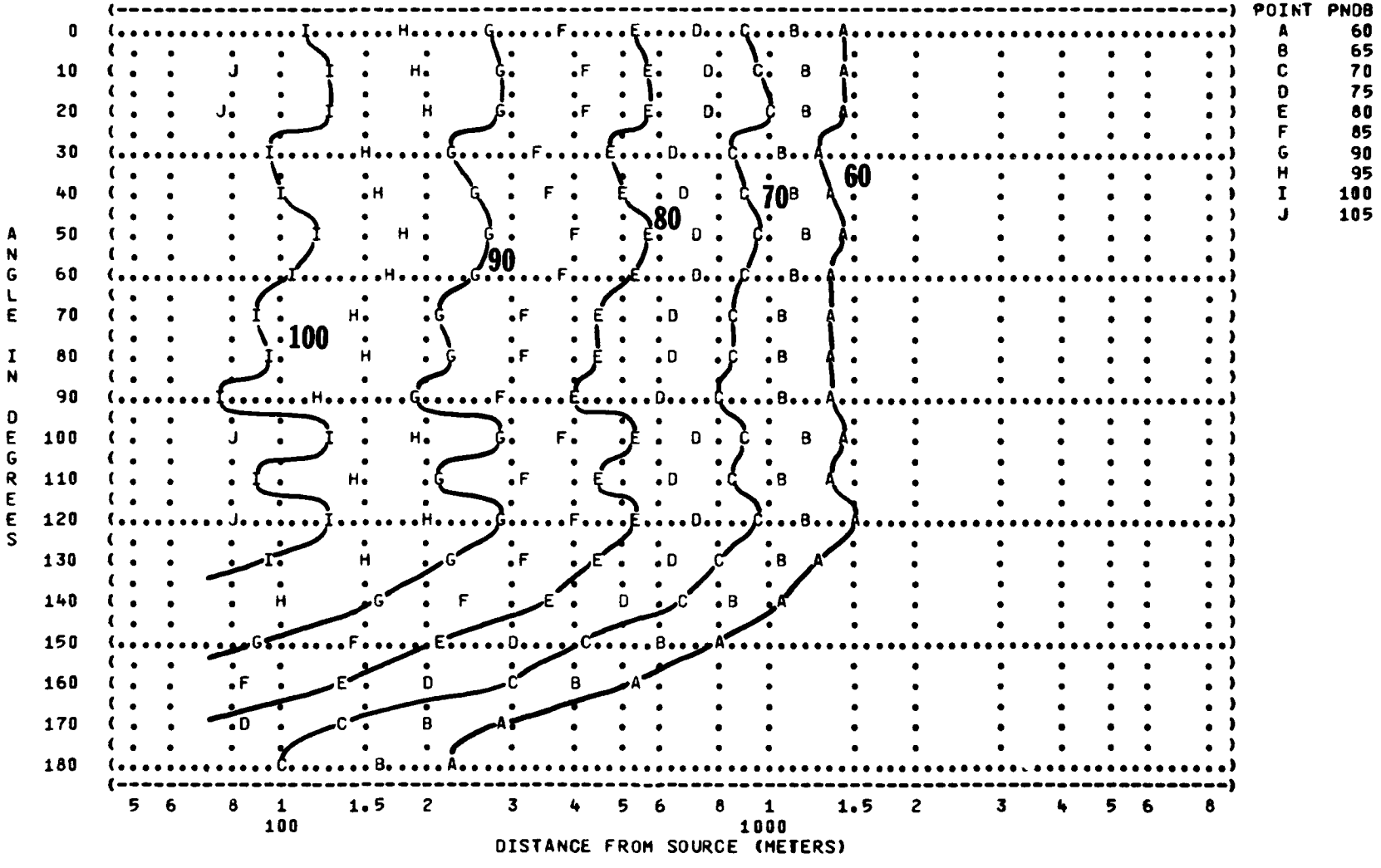


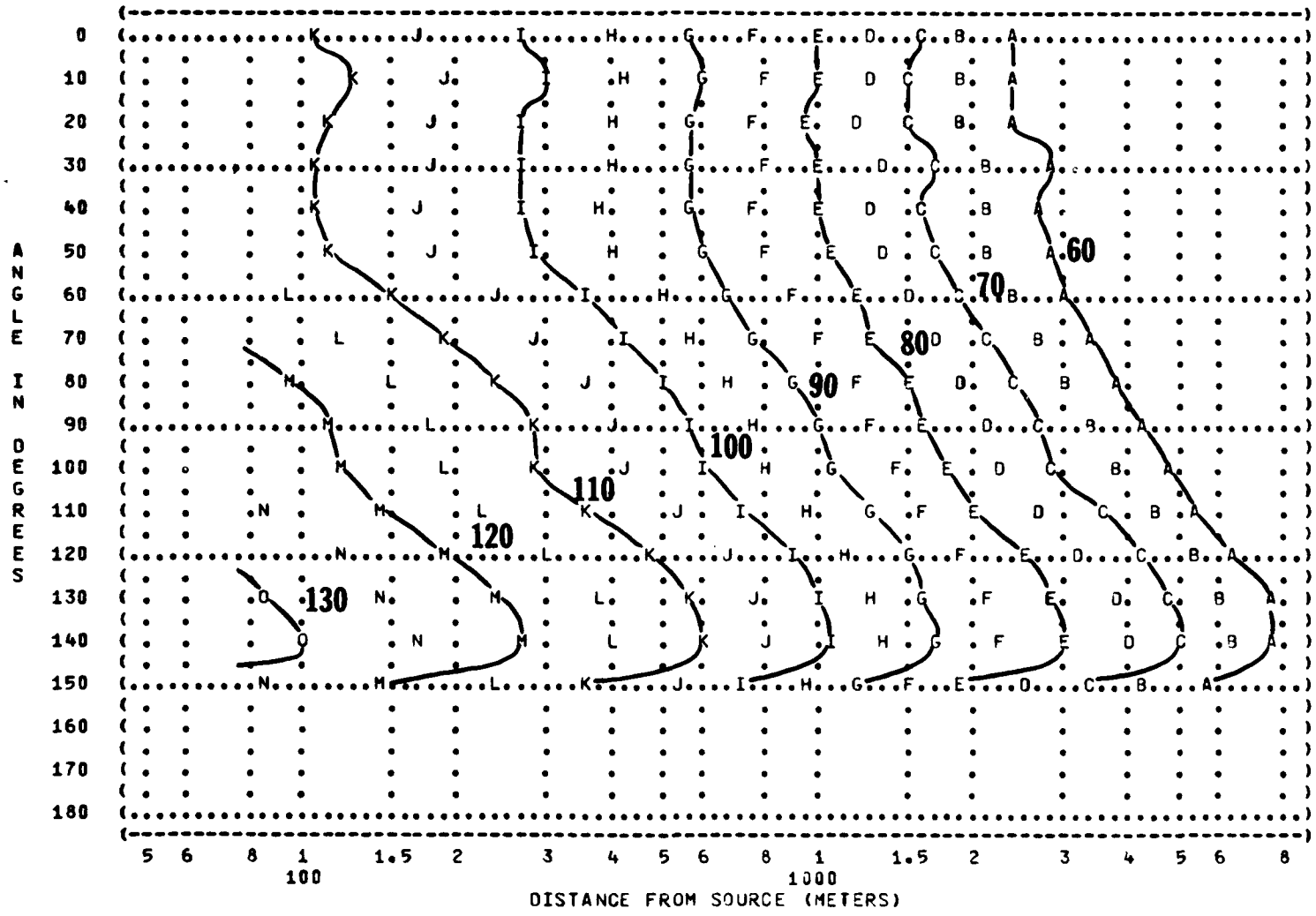
FIGURE 8: PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT) EQUAL LEVEL CONTOURS (PNOB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-062
RUN 01
18 SEP 78
PAGE 16

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
97% RPM
DEFLECTED FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %



POINT	PNDB
A	60
B	65
C	70
D	75
E	80
F	85
G	90
H	95
I	100
J	105
K	110
L	115
M	120
N	125
O	130

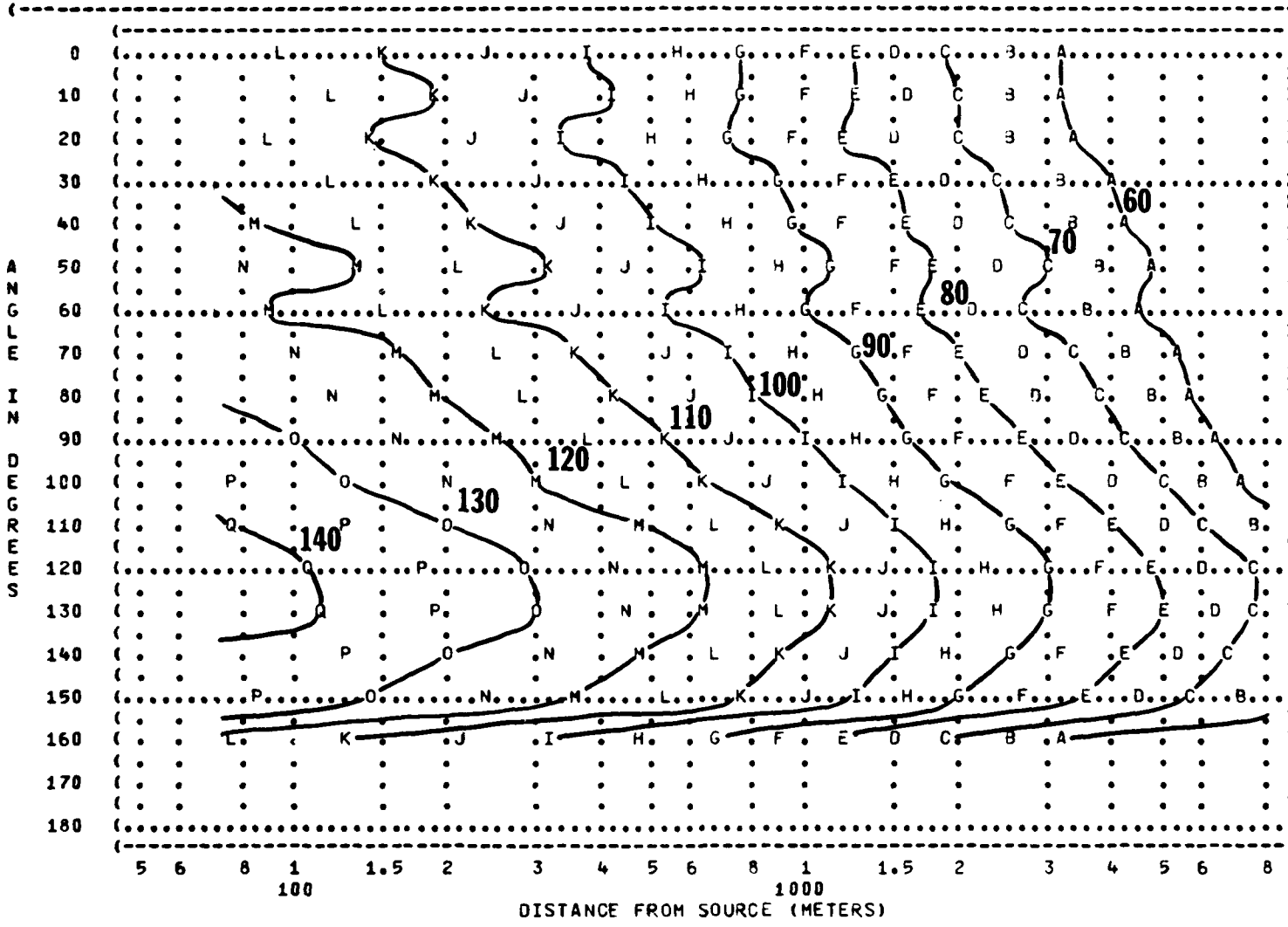
FIGURE 8: PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT) EQUAL LEVEL CONTOURS (PNDB)

NOISE SOURCE/SUBJECT:
F-1000 AIRCRAFT
J57-P-21 ENGINE
FAR FIELD NOISE

OPERATION:
AFTERBURNER POWER
97% RPM
DEFLECTED FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-062
RUN 02
18 SEP 78
PAGE 16



POINT	PNDB
A	60
B	65
C	70
D	75
E	80
F	85
G	90
H	95
I	100
J	105
K	110
L	115
M	120
N	125
O	130
P	135
Q	140

FIGURE 9: PREFERRED SPEECH INTERFERENCE LEVEL (PSIL)
EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-031
RUN 01
18 SEP 78
PAGE 17

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
GROUND RUNUP NOISE

OPERATION:
IDLE POWER
58% RPM
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

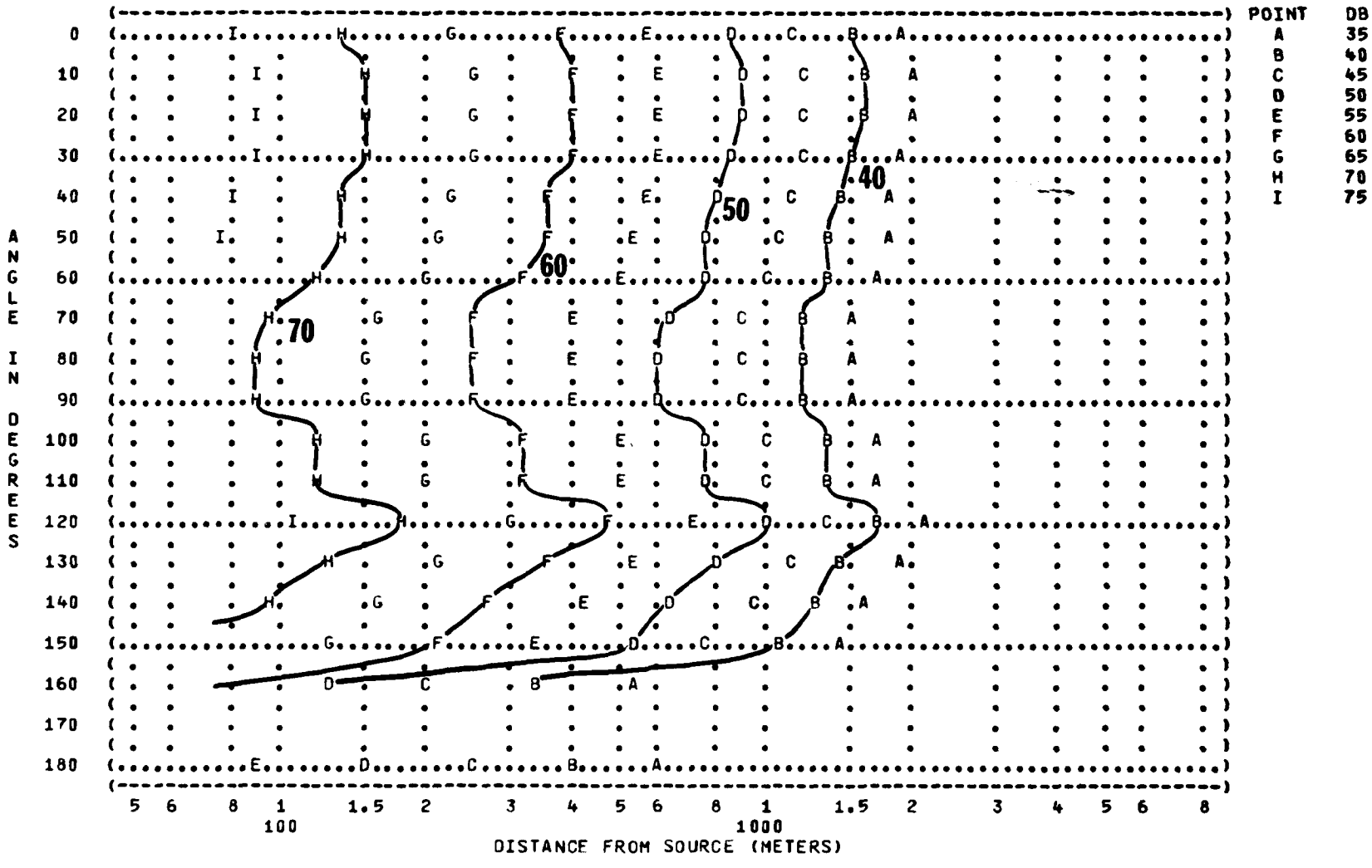


FIGURE: 9 PREFERRED SPEECH INTERFERENCE LEVEL (PSIL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-802-031
RUN 02
24 JAN 79
PAGE 17

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
GROUND RUNUP NOISE

OPERATION:
70% RPM
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

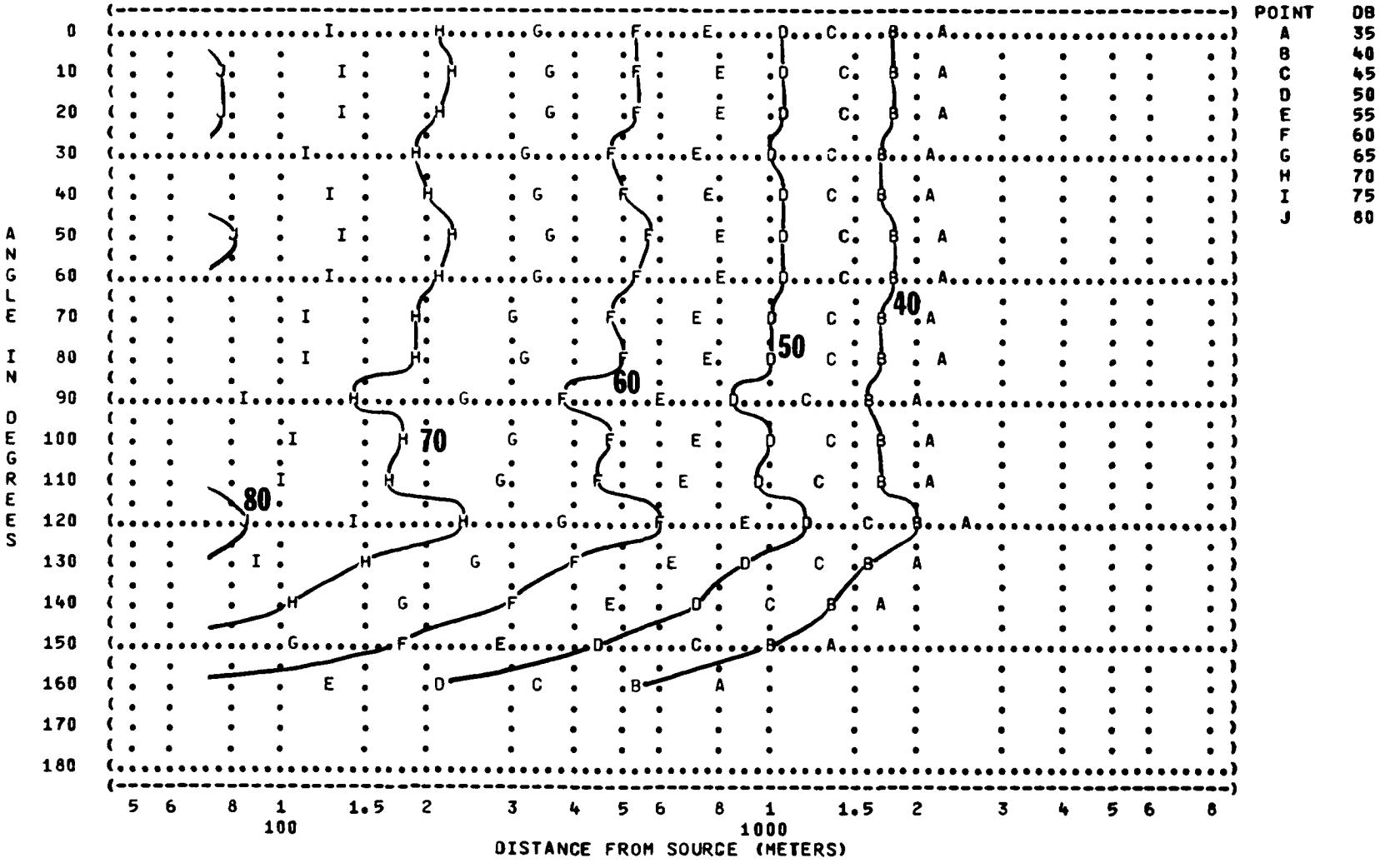


FIGURE 9 PREFERRED SPEECH INTERFERENCE LEVEL (PSIL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-062
RUN 01
18 SEP 78
PAGE 17

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
97% RPM
DEFLECTED FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95
N	100
O	105
P	110

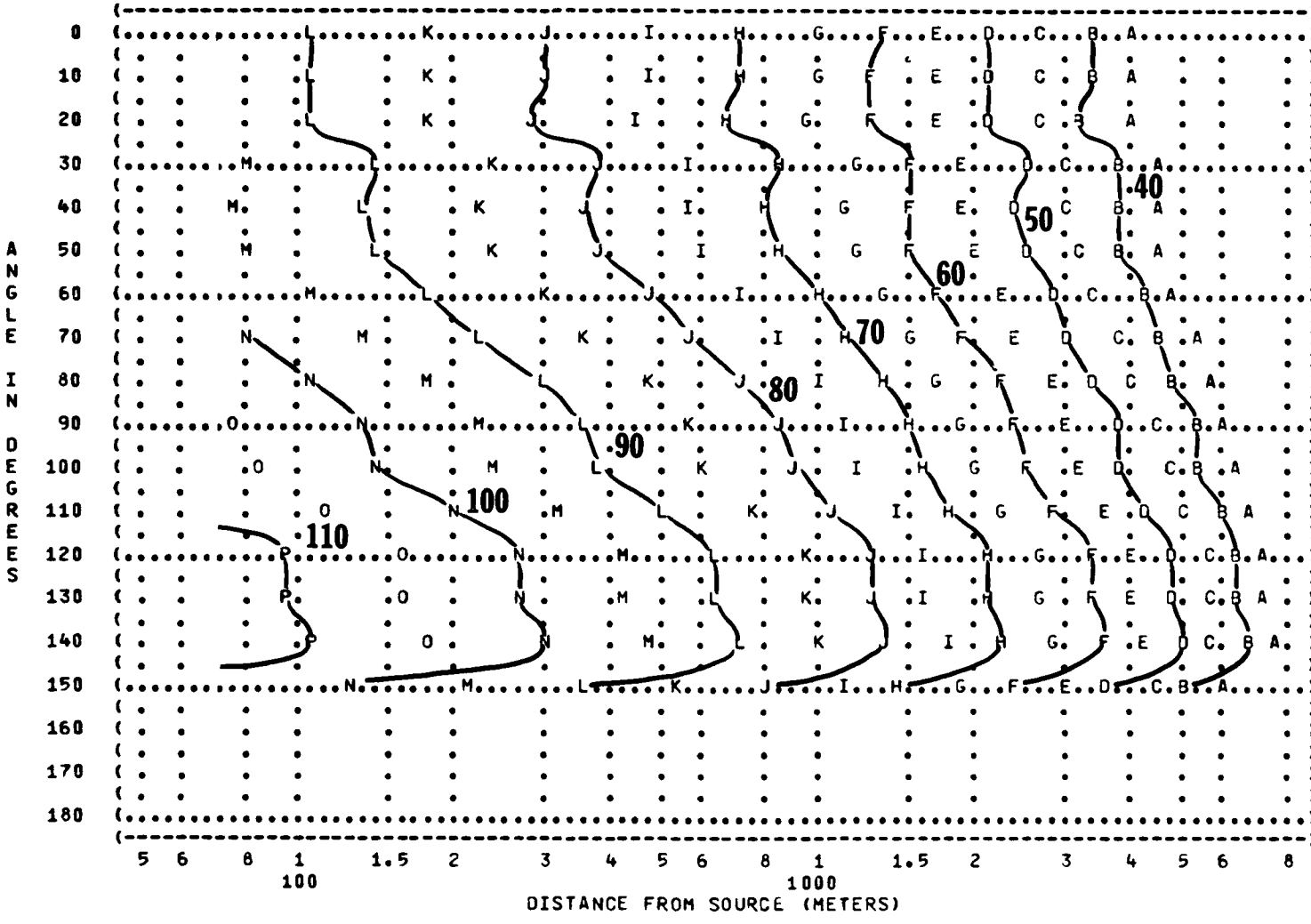


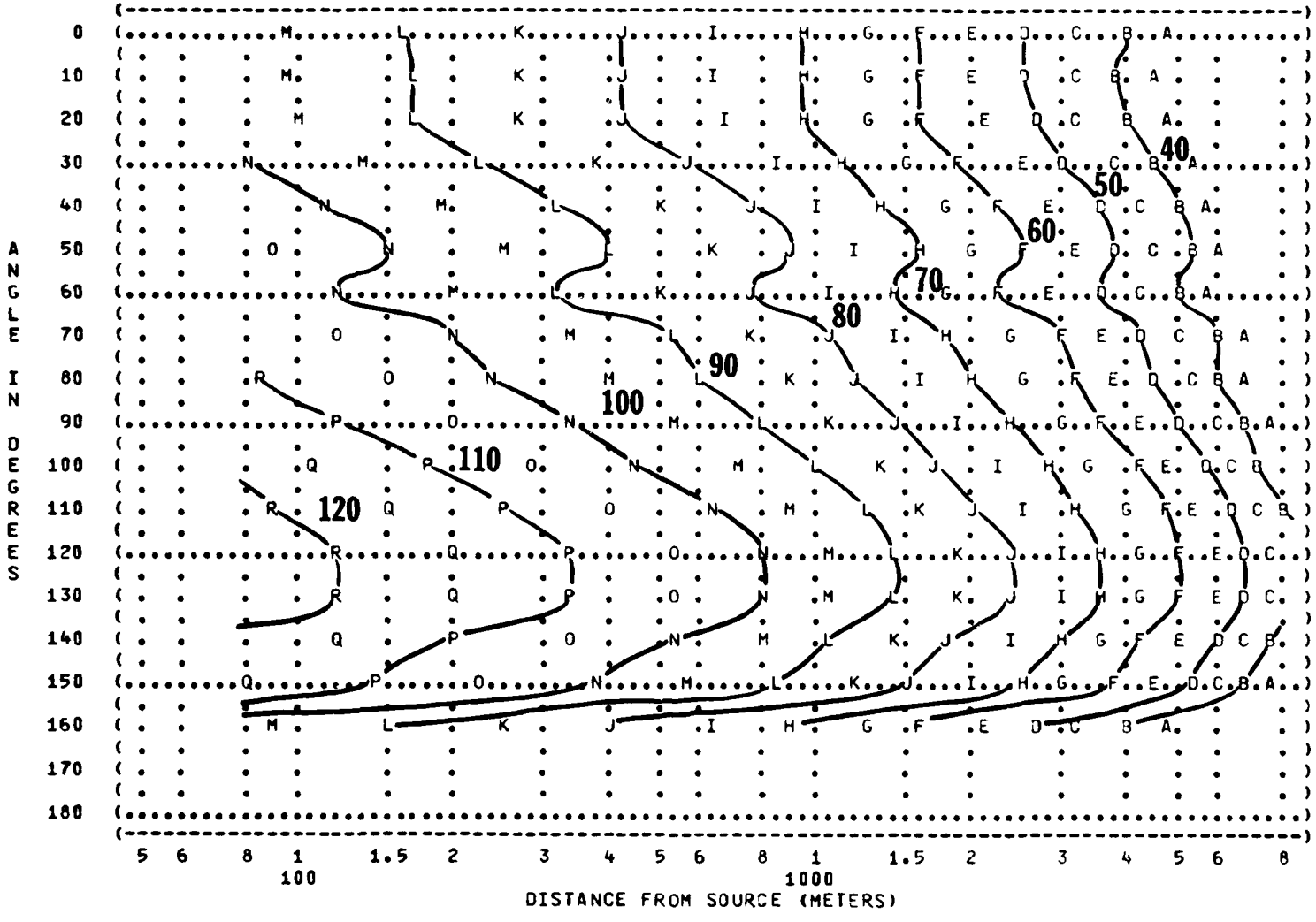
FIGURE: 9 PREFERRED SPEECH INTERFERENCE LEVEL (PSIL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-062
RUN 02
18 SEP 78
PAGE 17

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
FAR FIELD NOISE

OPERATION:
AFTERBURNER POWER
97% RPM
DEFLECTED FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95
N	100
O	105
P	110
Q	115
R	120

FIGURE 10: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
NO PROTECTION

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-031
RUN 01
18 SEP 78
PAGE 7

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
GROUND RUNUP NOISE

OPERATION:
IDLE POWER
58% RPM
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

POINT	MIN
A	960
B	480

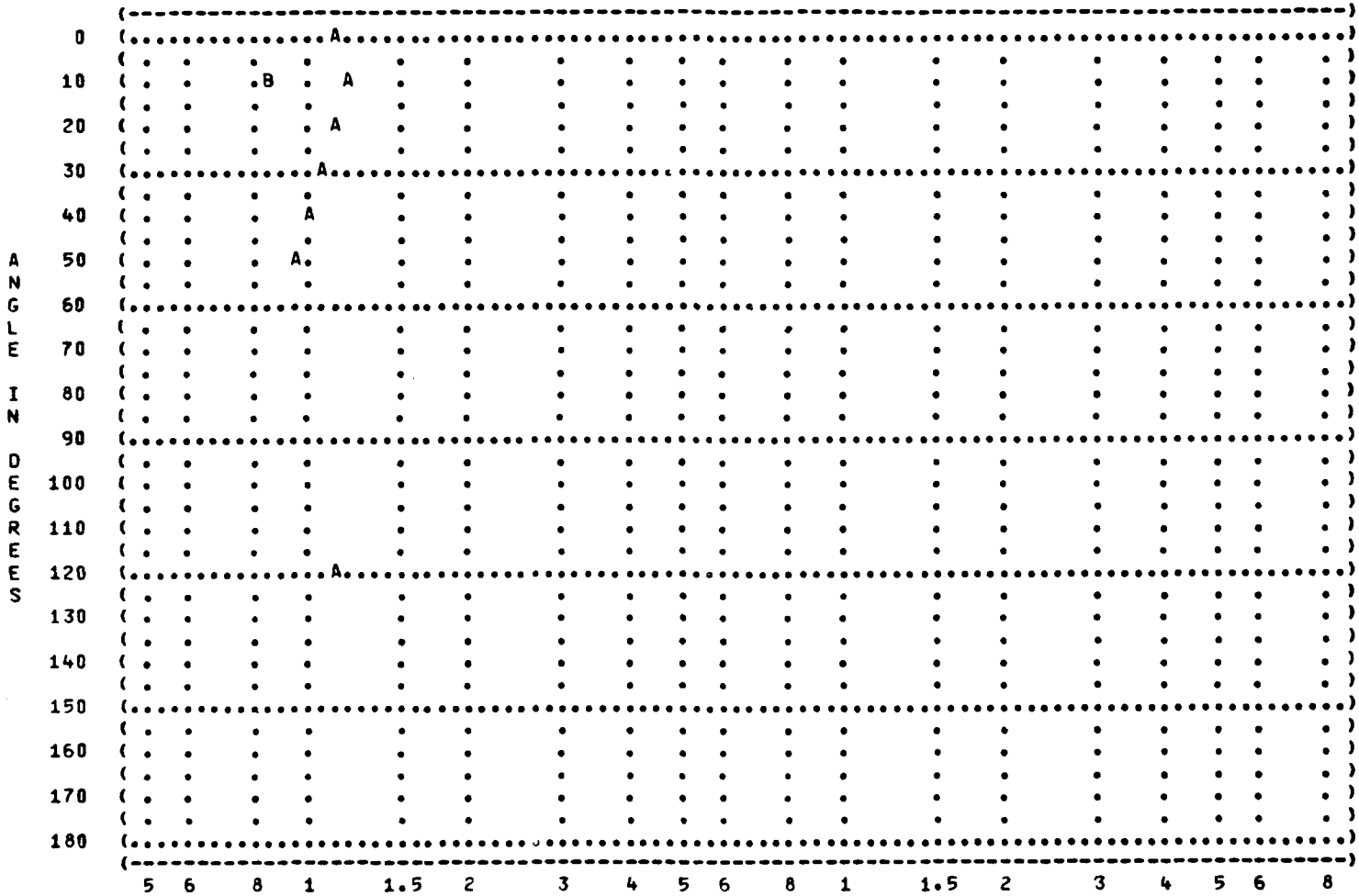


FIGURE 10: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73) EQUAL TIME CONTOURS (MINUTES)

IDENTIFICATION: OMEGA 1.4 TEST 75-002-031 RUN 01 18 SEP 78 PAGE 8

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
GROUND RUNUP NOISE

OPERATION:
IDLE POWER
58% RPM
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

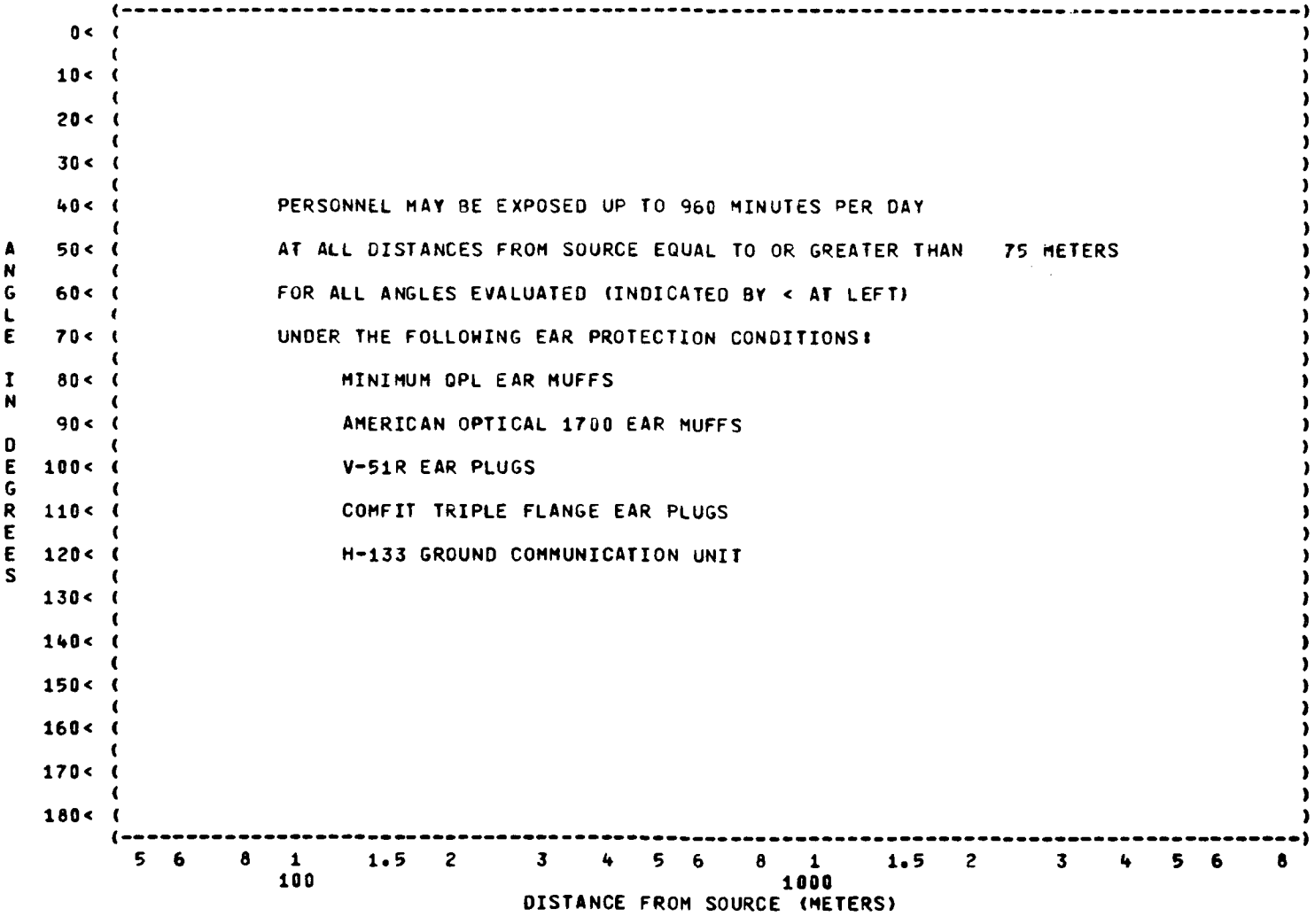


FIGURE: 10 MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
NO PROTECTION

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-031
RUN 02
24 JAN 79
PAGE 7

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
GROUND RUNUP NOISE

OPERATION:
70% RPM
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

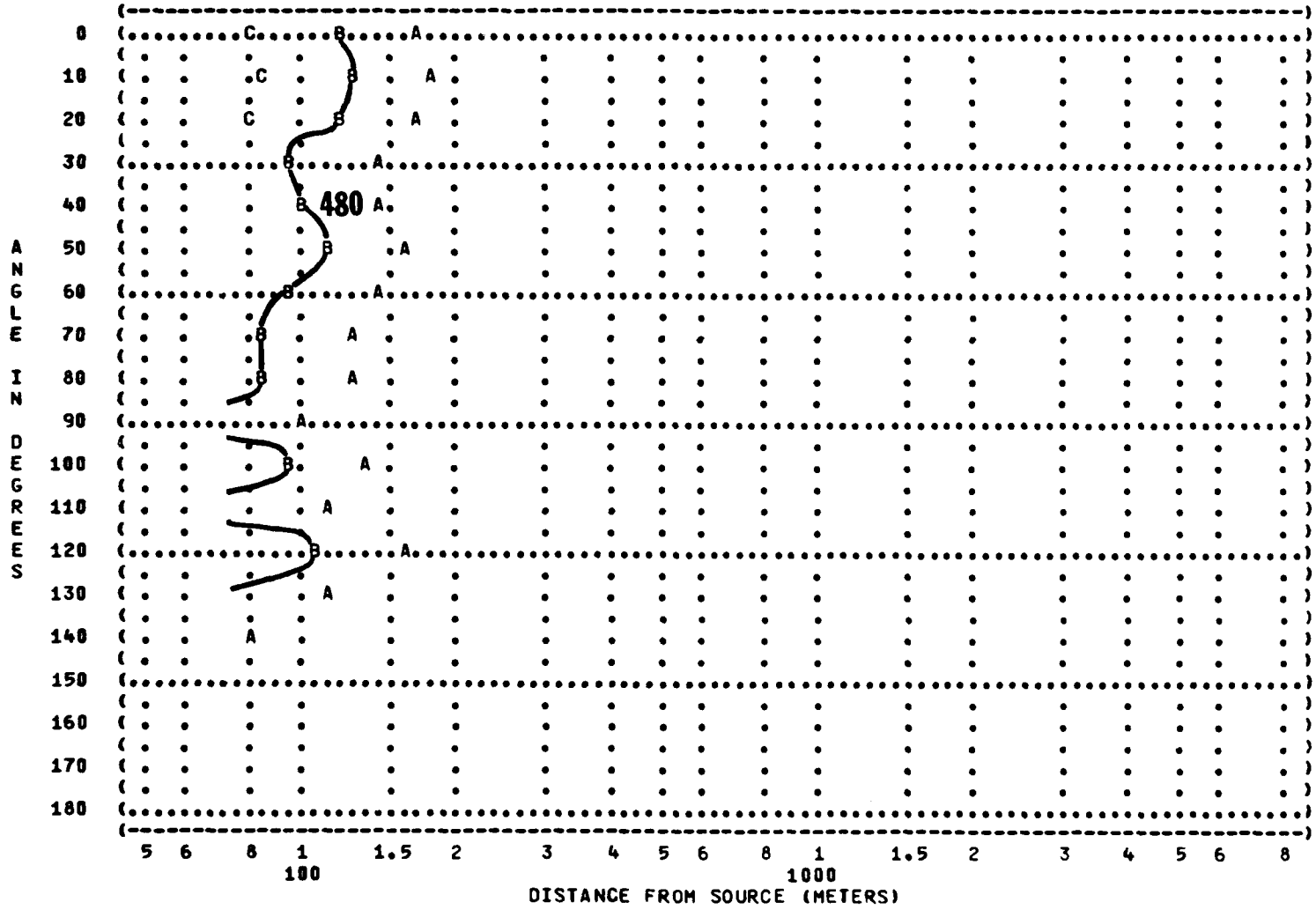


FIGURE: 10	MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73) EQUAL TIME CONTOURS (MINUTES)	IDENTIFICATION:
NOISE SOURCE/SUBJECT: F-100D AIRCRAFT J57-P-21 ENGINE GROUND RUNUP NOISE	OPERATION: 70% RPM FREE FLOW	METEOROLOGY: TEMP = 15 C BAR PRESS = .760 M HG REL HUMID = 70 %	OMEGA 1.4 TEST 75-002-031 RUN 02 24 JAN 79 PAGE 8

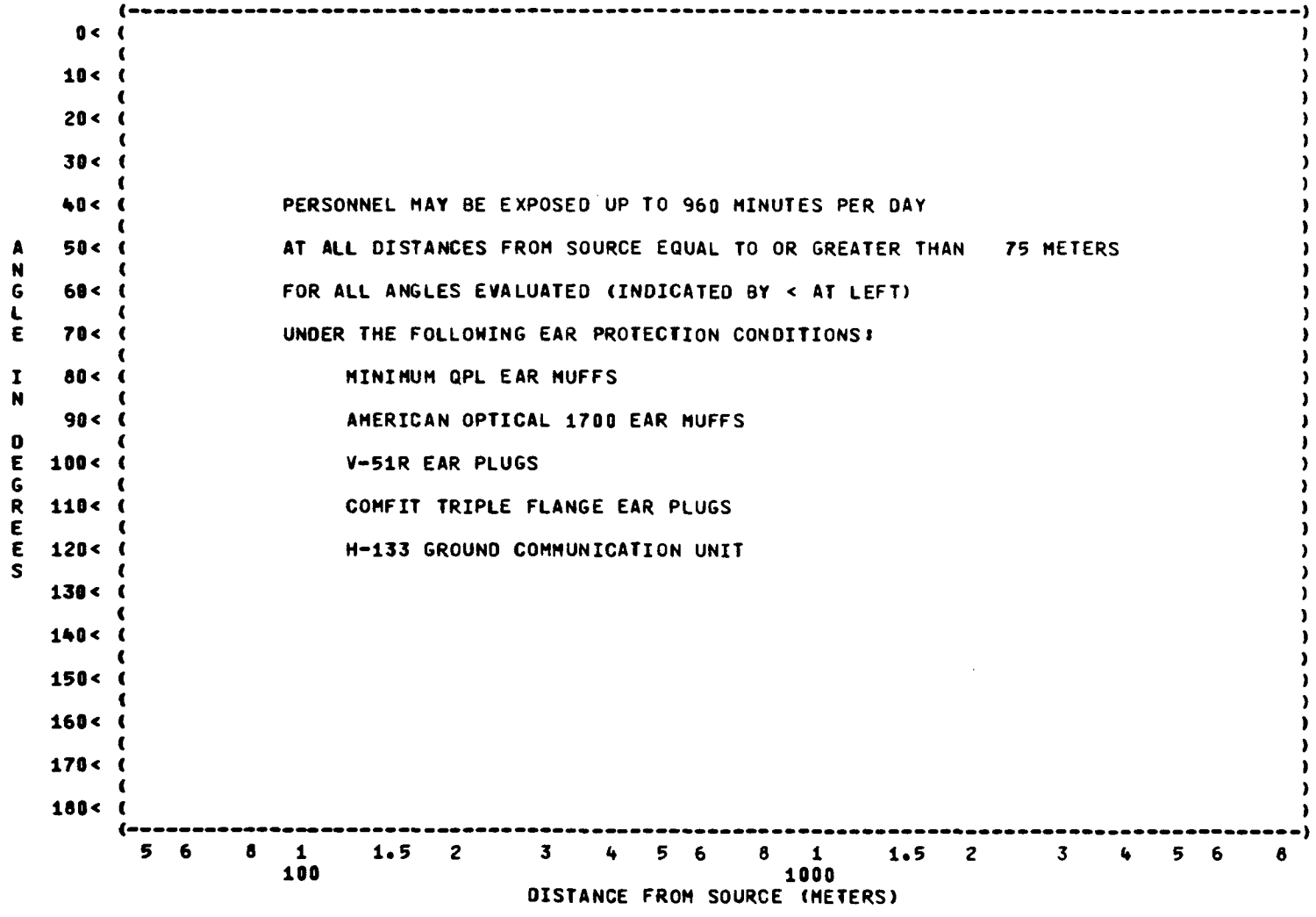


FIGURE 10: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
NO PROTECTION

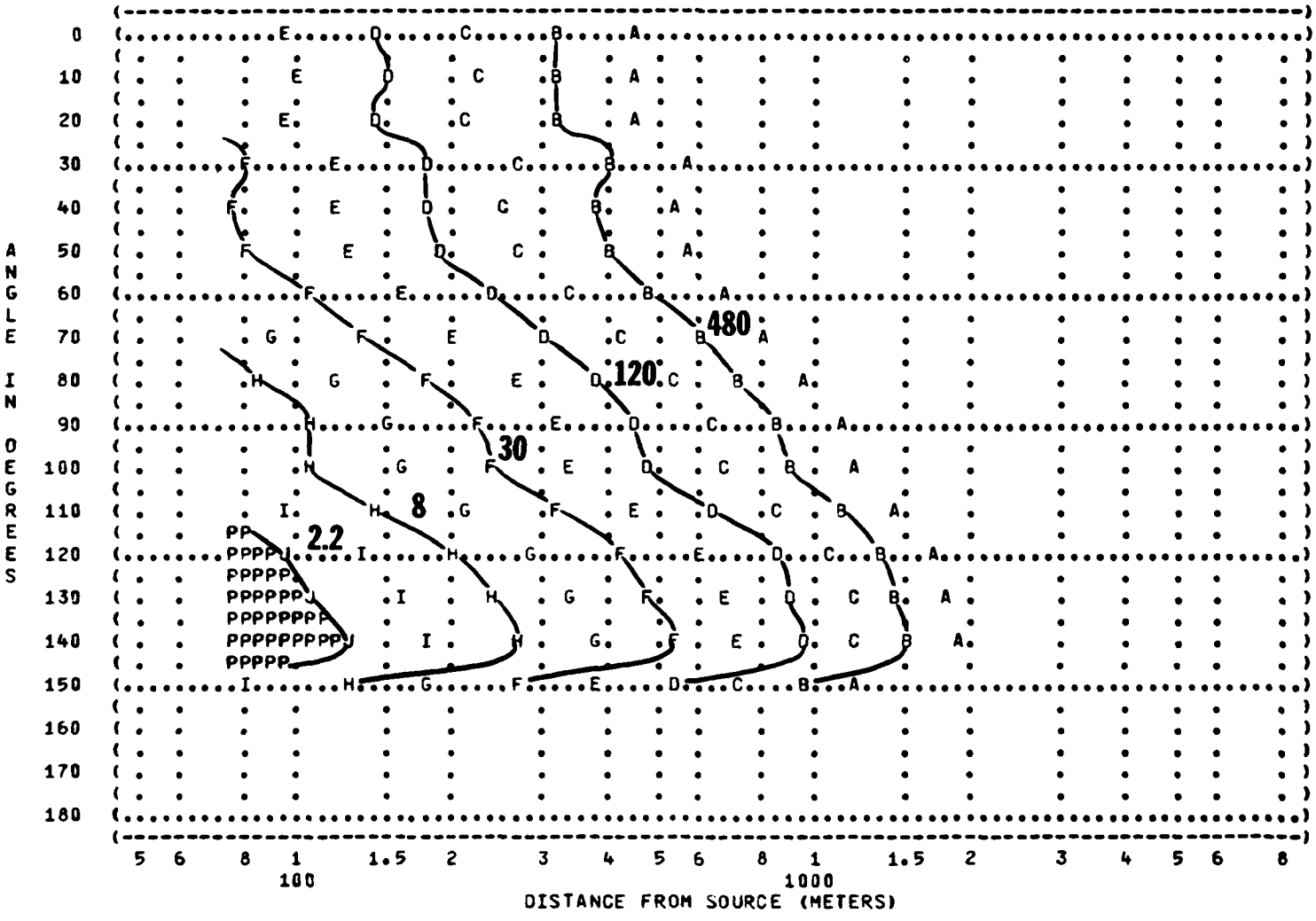
IDENTIFICATION:
OMEGA 1.4
TEST 75-002-062
RUN 01
18 SEP 78
PAGE 7

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
97% RPM
DEFLECTED FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

POINT	MIN
A	960
B	480
C	240
D	120
E	60
F	30
G	15
H	8
I	4
J	2.2



P ADDITIONAL EAR PROTECTION REQUIRED.

FIGURE 10: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
MINIMUM QPL EAR MUFFS

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
97% RPM
DEFLECTED FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-062
RUN 01
18 SEP 78
PAGE 8

POINT	MIN
A	960
B	480
C	240
D	120
E	60
F	30

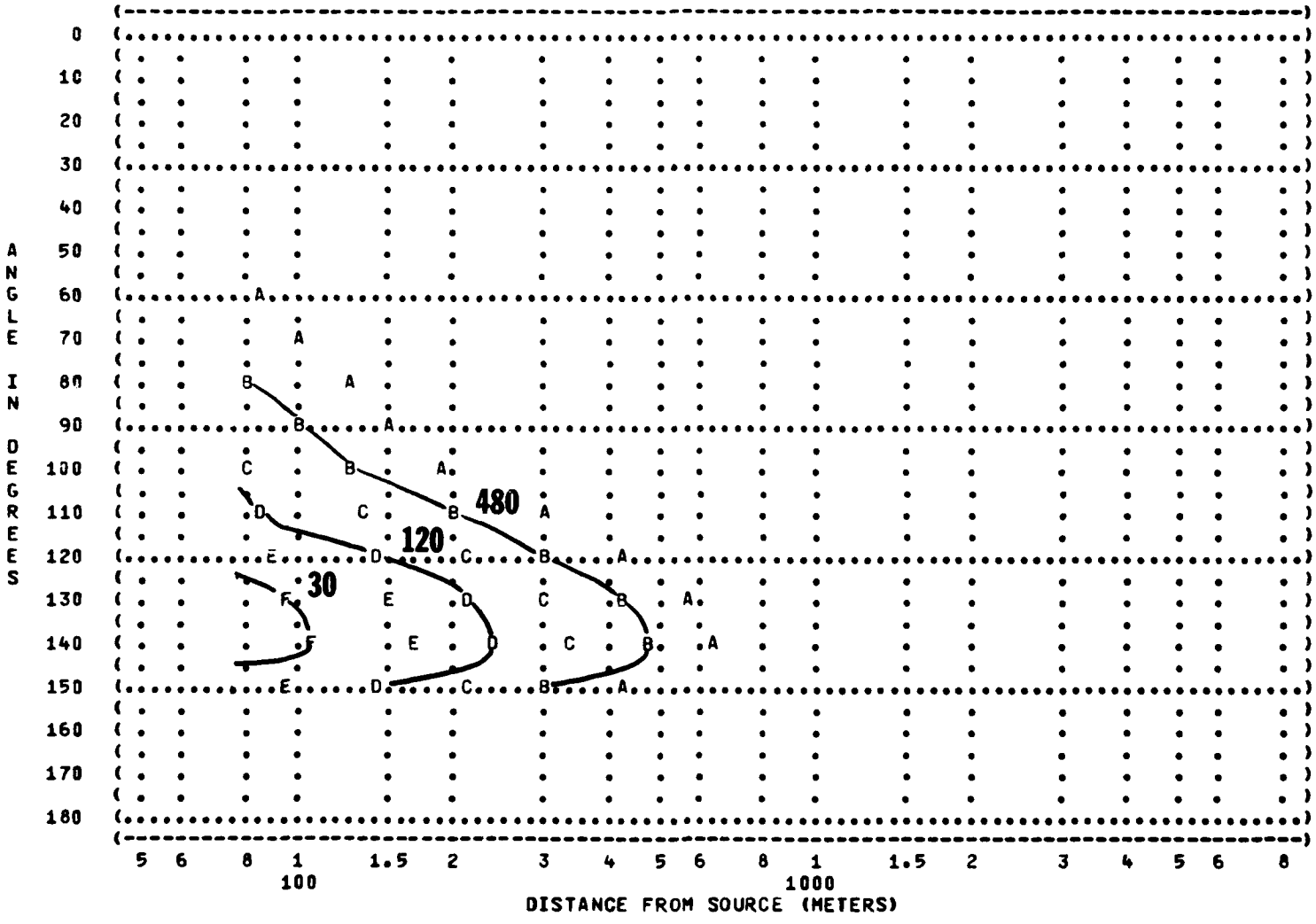


FIGURE 10: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
AMERICAN OPTICAL 1700 EAR MUFFS

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-062
RUN 01
18 SEP 78
PAGE 9

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
97% RPM
DEFLECTED FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

POINT	MIN
A	960
B	480
C	240
D	120
E	60

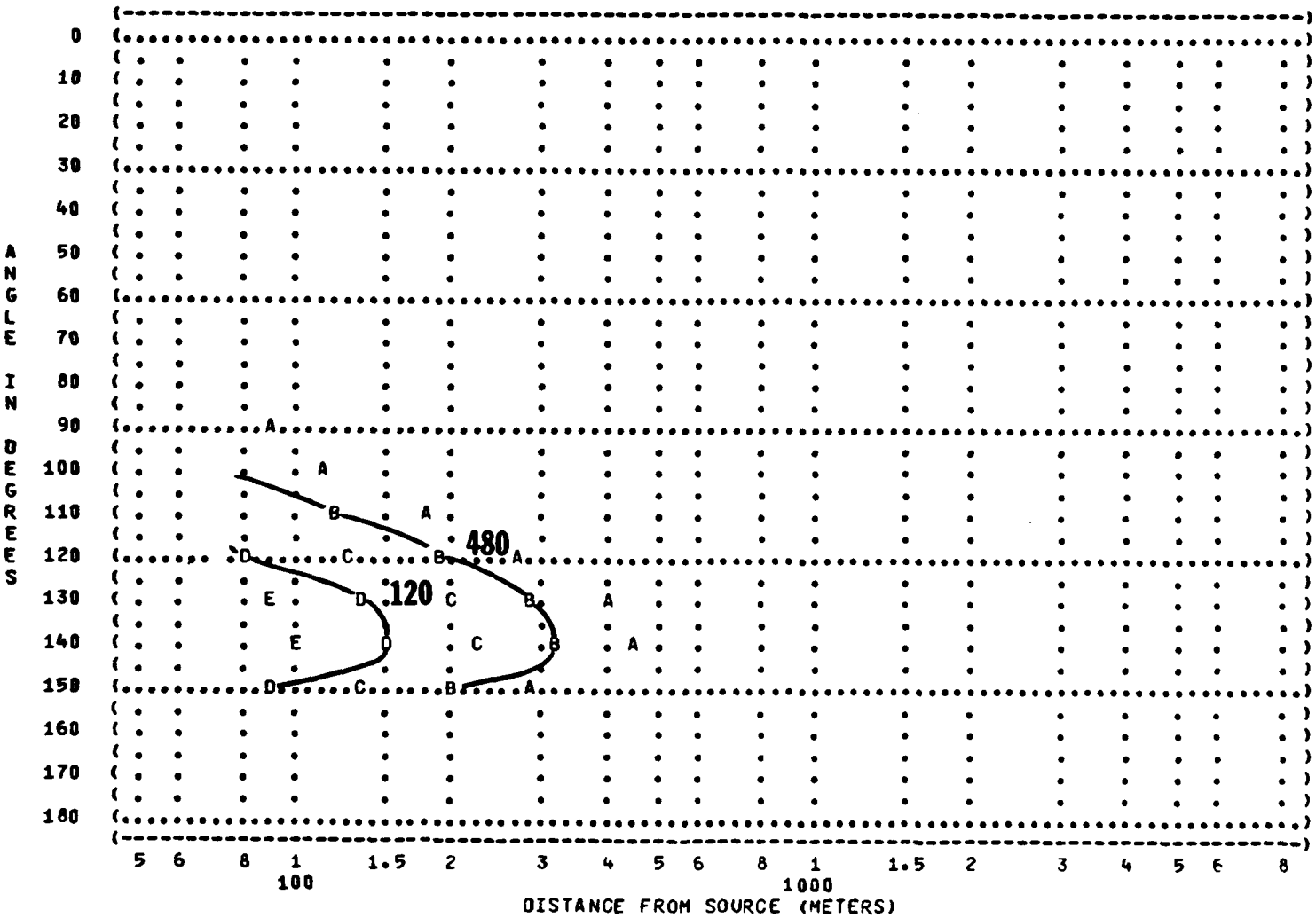


FIGURE: 10

MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
V-51R EAR PLUGS

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-062
RUN 01
18 SEP 78
PAGE 10

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
97% RPM
DEFLECTED FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

POINT	MIN
A	960
B	480
C	240
D	120
E	60

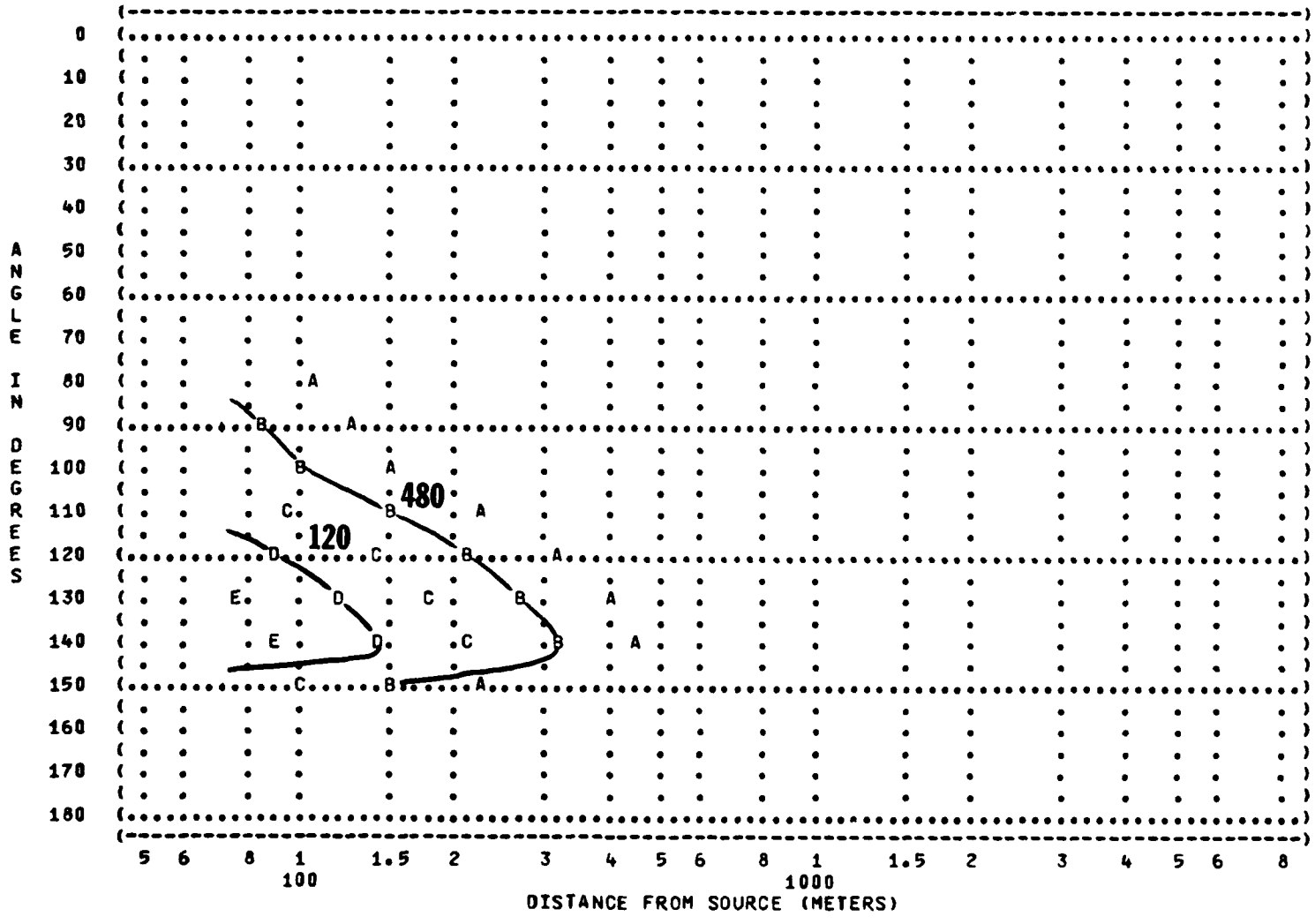


FIGURE: 10

MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
COMFIT TRIPLE FLANGE EAR PLUGS

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-062
RUN 01
18 SEP 78
PAGE 11

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
97% RPM
DEFLECTED FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

POINT	MIN
A	960
B	480
C	240
D	120
E	60

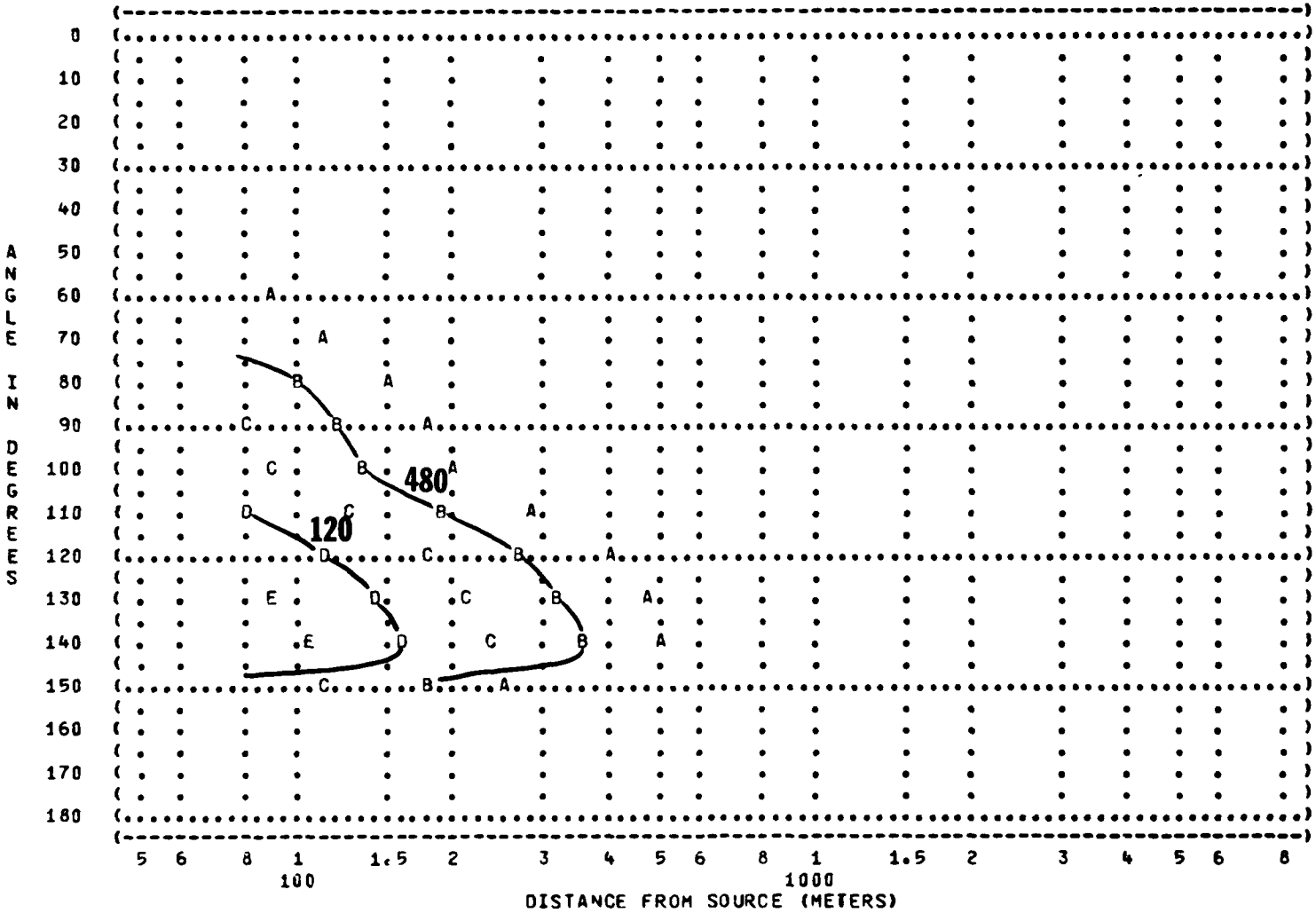


FIGURE 10: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
H-133 GROUND COMMUNICATION UNIT

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-062
RUN 01
18 SEP 78
PAGE 12

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
97% RPM
DEFLECTED FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

POINT	MIN
A	960
B	480
C	240
D	120

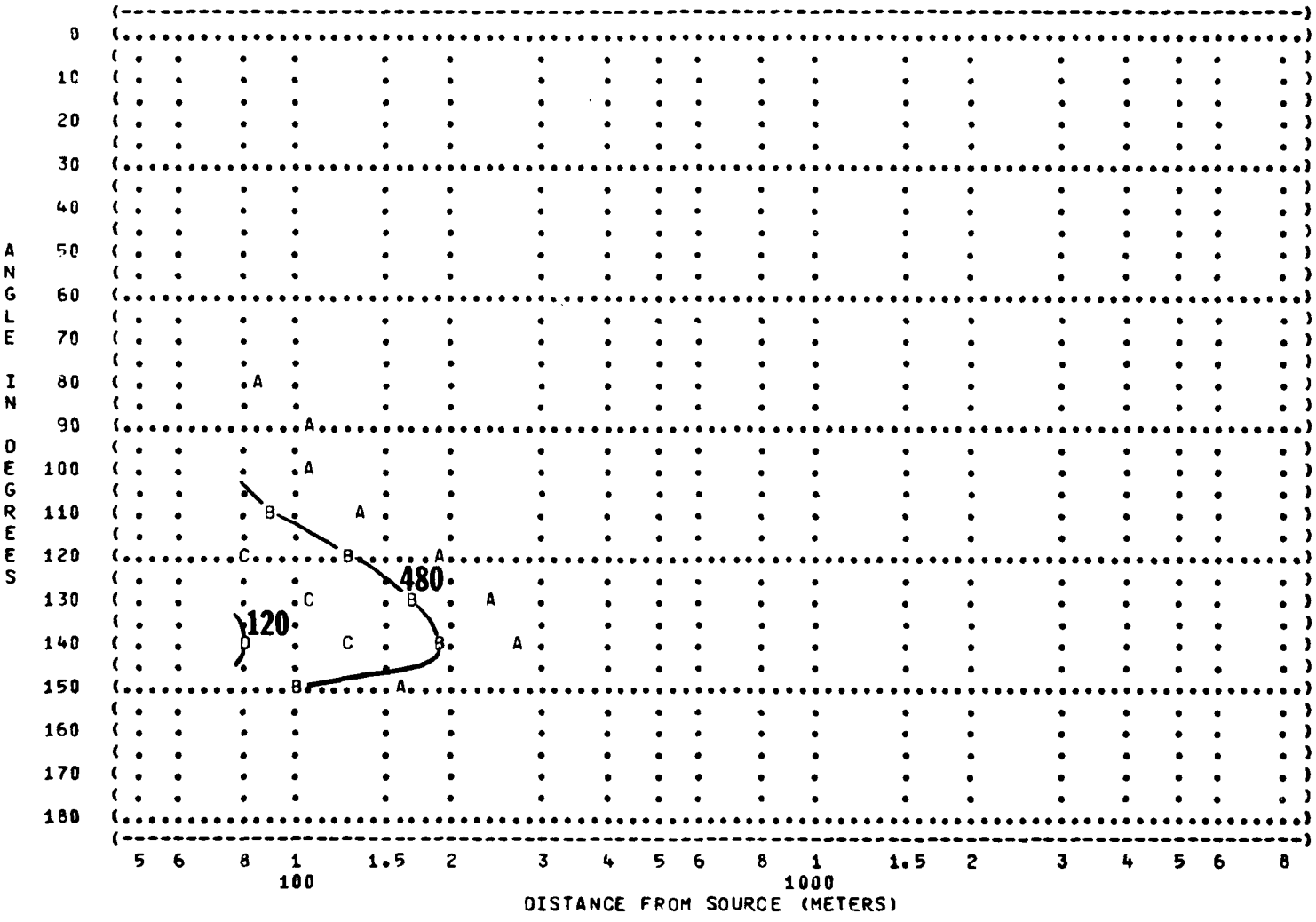


FIGURE: 10

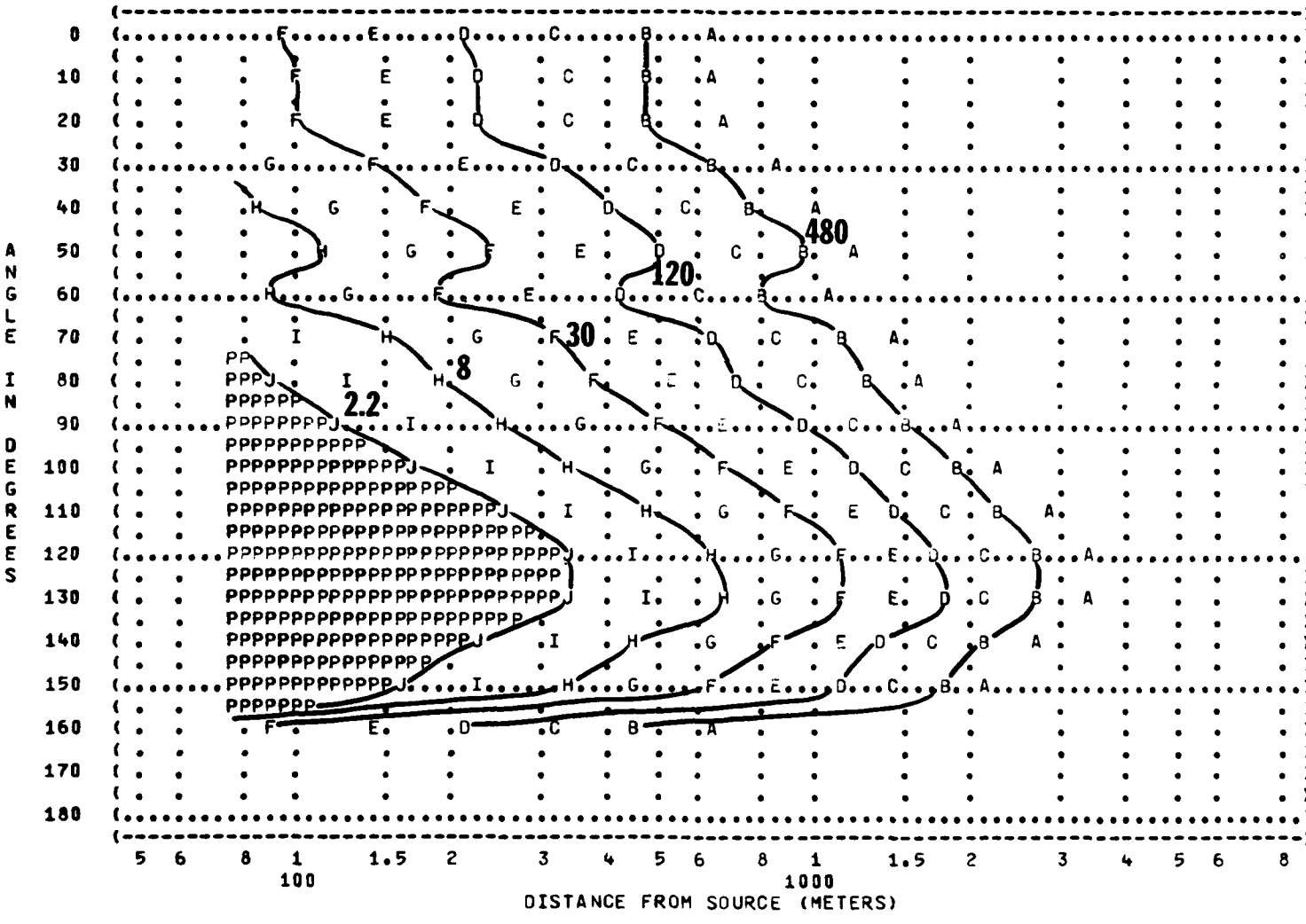
MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
NO PROTECTION

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-062
RUN 02
18 SEP 78
PAGE 7

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
FAR FIELD NOISE

OPERATION:
AFTERBURNER POWER
97% RPM
DEFLECTED FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %



POINT	MIN
A	960
B	480
C	240
D	120
E	60
F	30
G	15
H	8
I	4
J	2.2

P ADDITIONAL EAR PROTECTION REQUIRED.

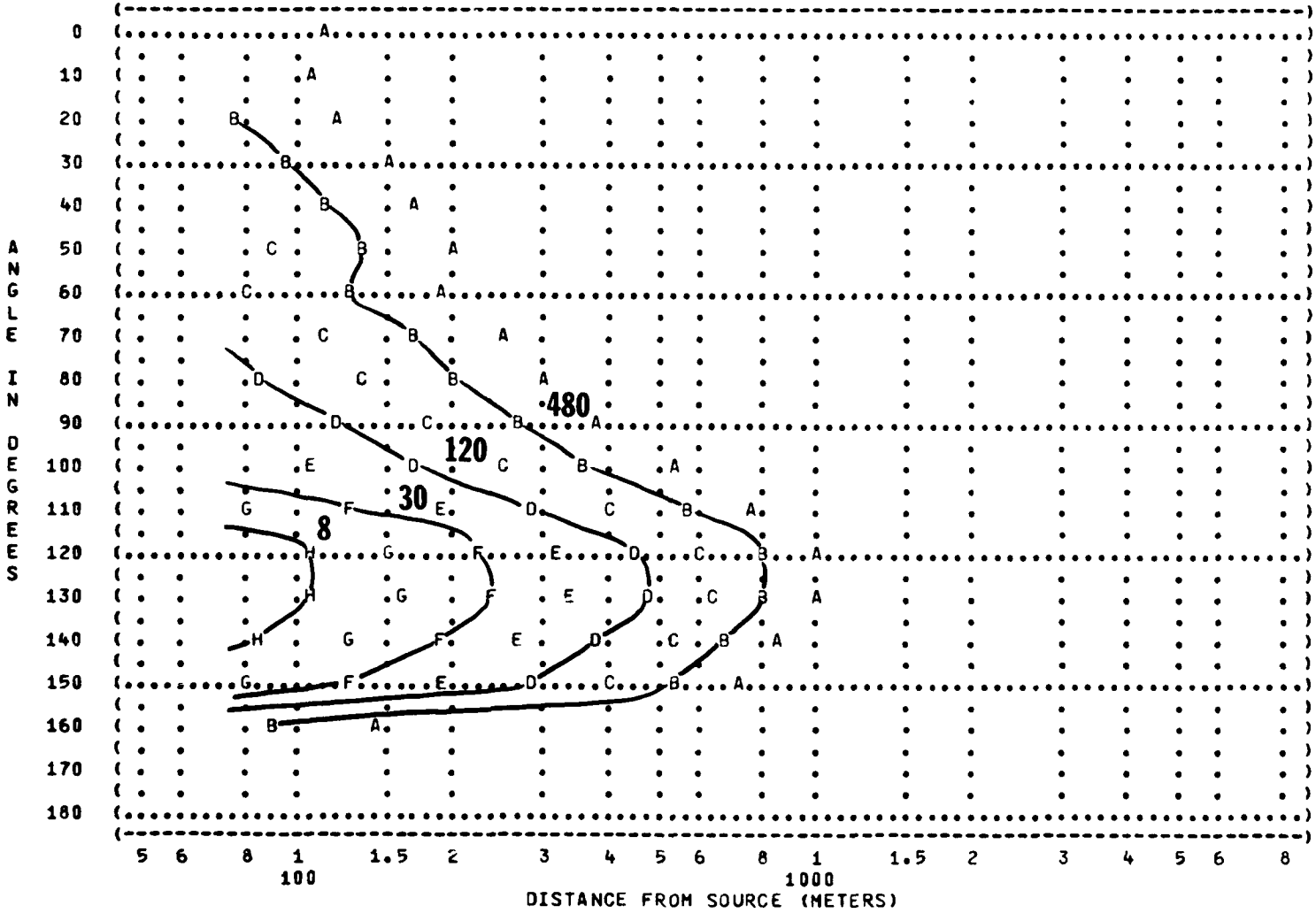
FIGURE 10: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
MINIMUM QPL EAR MUFFS

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
FAR FIELD NOISE

OPERATION:
AFTERBURNER POWER
97% RPM
DEFLECTED FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-062
RUN 02
18 SEP 78
PAGE 8



POINT	MIN
A	960
B	480
C	240
D	120
E	60
F	30
G	15
H	8

FIGURE: 10

MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
AMERICAN OPTICAL 1700 EAR MUFFS

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-062
RUN 02
18 SEP 78
PAGE 9

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
FAR FIELD NOISE

OPERATION:
AFTERBURNER POWER
97% RPM
DEFLECTED FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

POINT	MIN
A	960
B	480
C	240
D	120
E	60
F	30
G	15

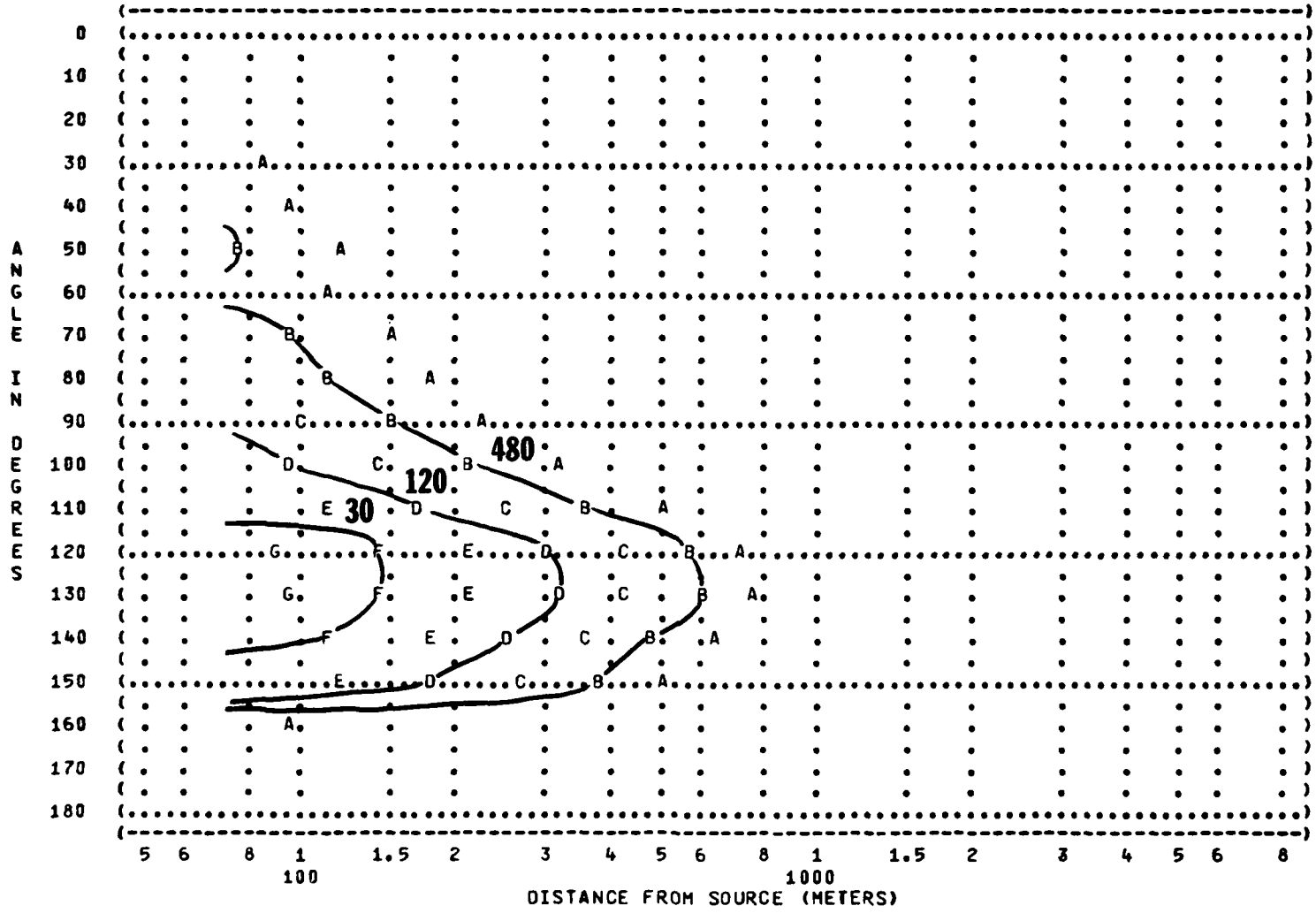


FIGURE 10: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
V-51R EAR PLUGS

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
FAR FIELD NOISE

OPERATION:
AFTERBURNER POWER
97% RPM
DEFLECTED FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-062
RUN 02
18 SEP 78
PAGE 10

POINT	MIN
A	960
B	480
C	240
D	120
E	60
F	30
G	15

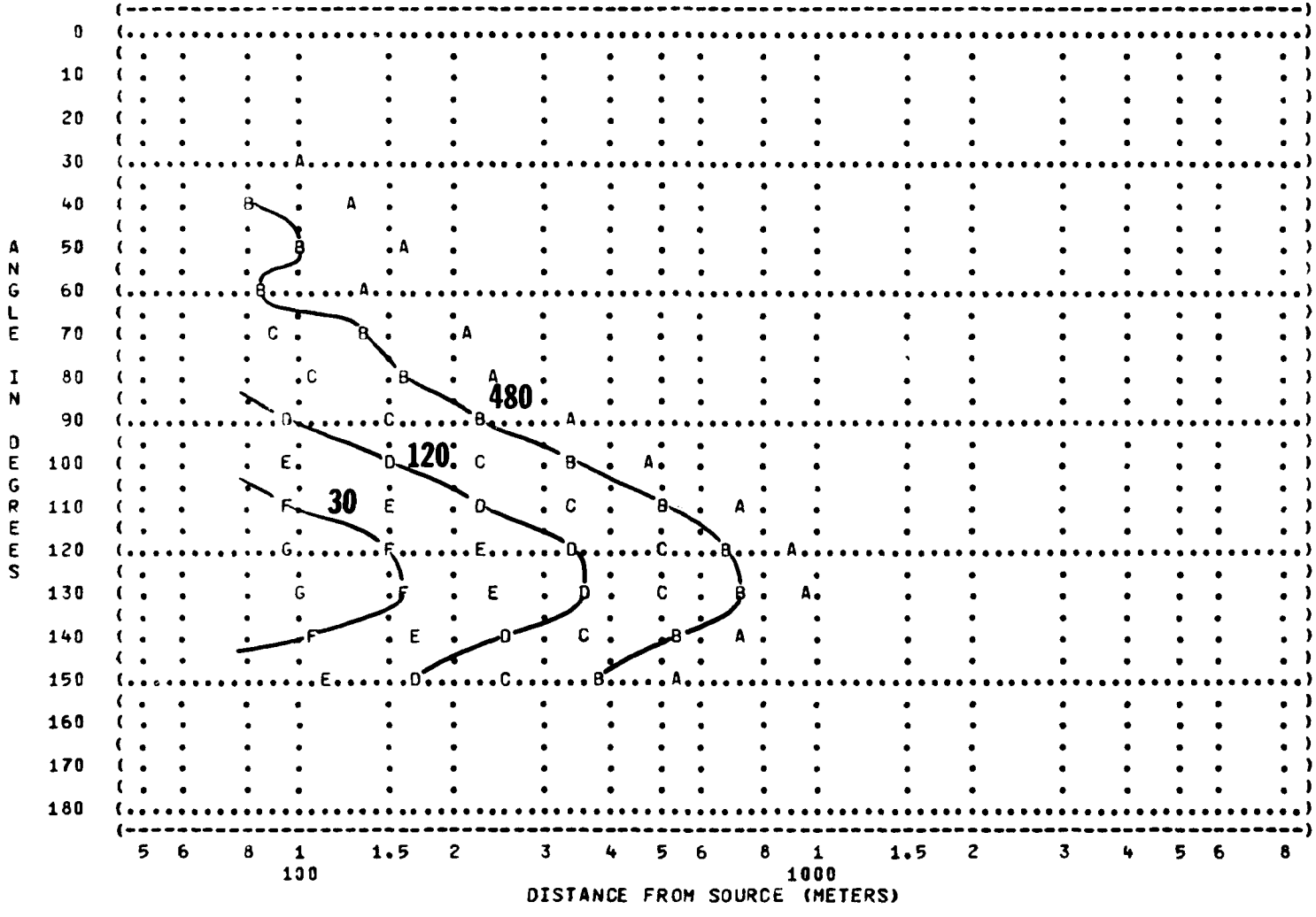


FIGURE: 10

MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
COMFIT TRIPLE FLANGE EAR PLUGS

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-062
RUN 02
18 SEP 78
PAGE 11

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
FAR FIELD NOISE

OPERATION:
AFTERBURNER POWER
97% RPM
DEFLECTED FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

POINT	MIN
A	960
B	480
C	240
D	120
E	60
F	30
G	15
H	8

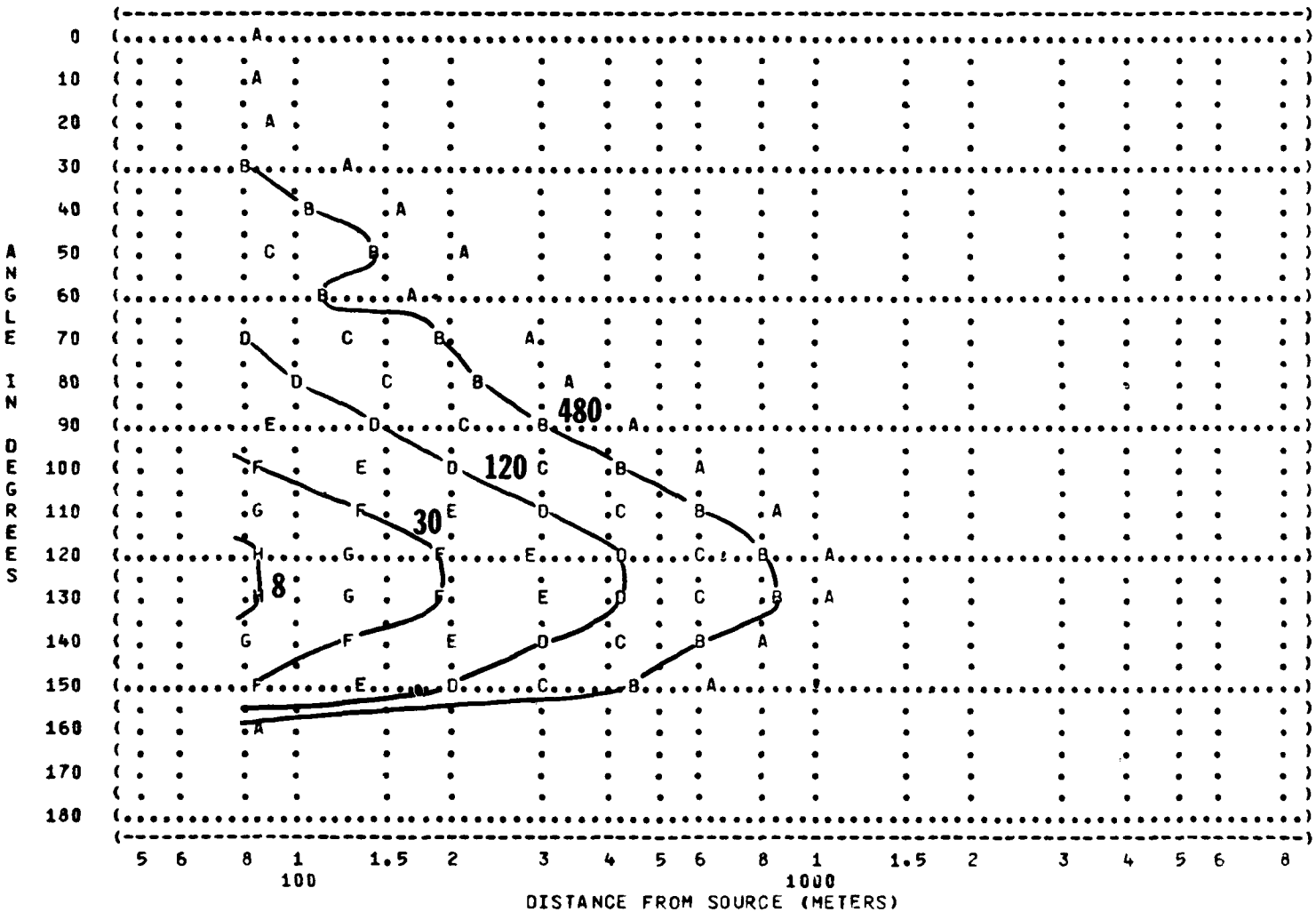


FIGURE 10: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
H-133 GROUND COMMUNICATION UNIT

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
FAR FIELD NOISE

OPERATION:
AFTERBURNER POWER
97% RPM
DEFLECTED FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-062
RUN 02
18 SEP 78
PAGE 12

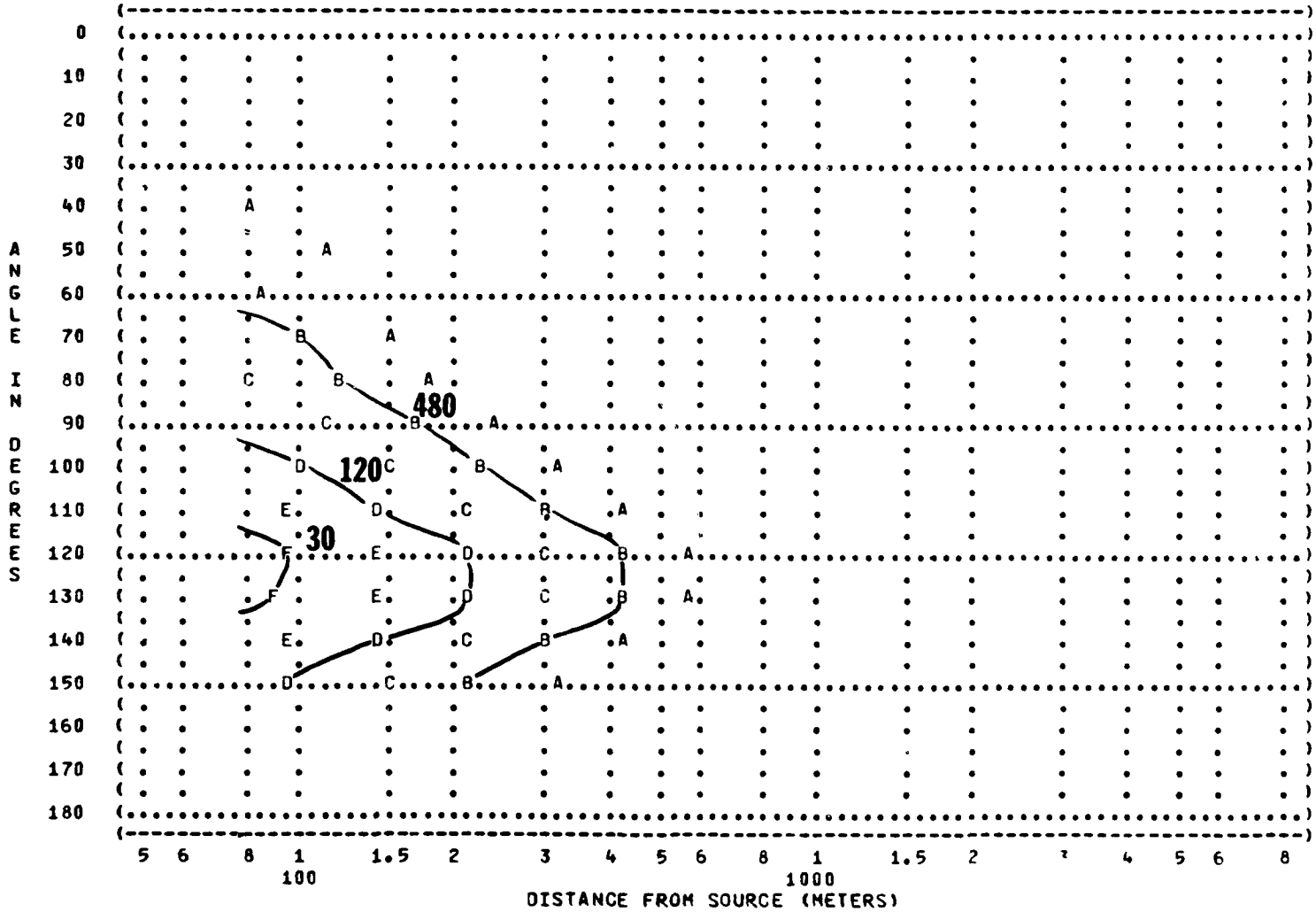


FIGURE: 11

SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
31.5 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 75-082-031
RUN 01
18 SEP 78
PAGE 18

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
GROUND RUNUP NOISE

OPERATION:
IDLE POWER
58% RPM
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75

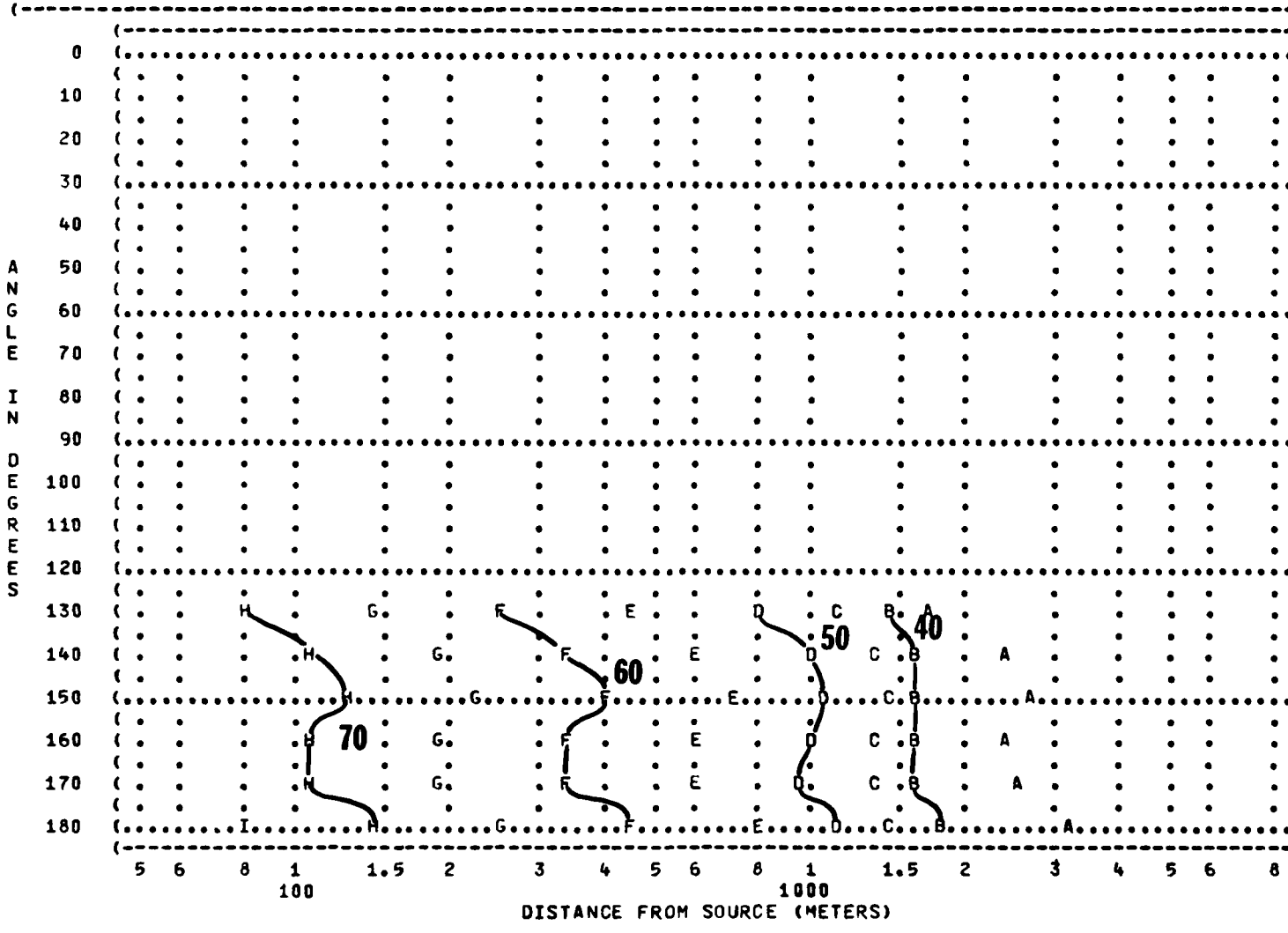


FIGURE: 11

SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
63 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-031
RUN 01
18 SEP 78
PAGE 19

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
GROUND RUNUP NOISE

OPERATION:
IDLE POWER
58% RPM
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70

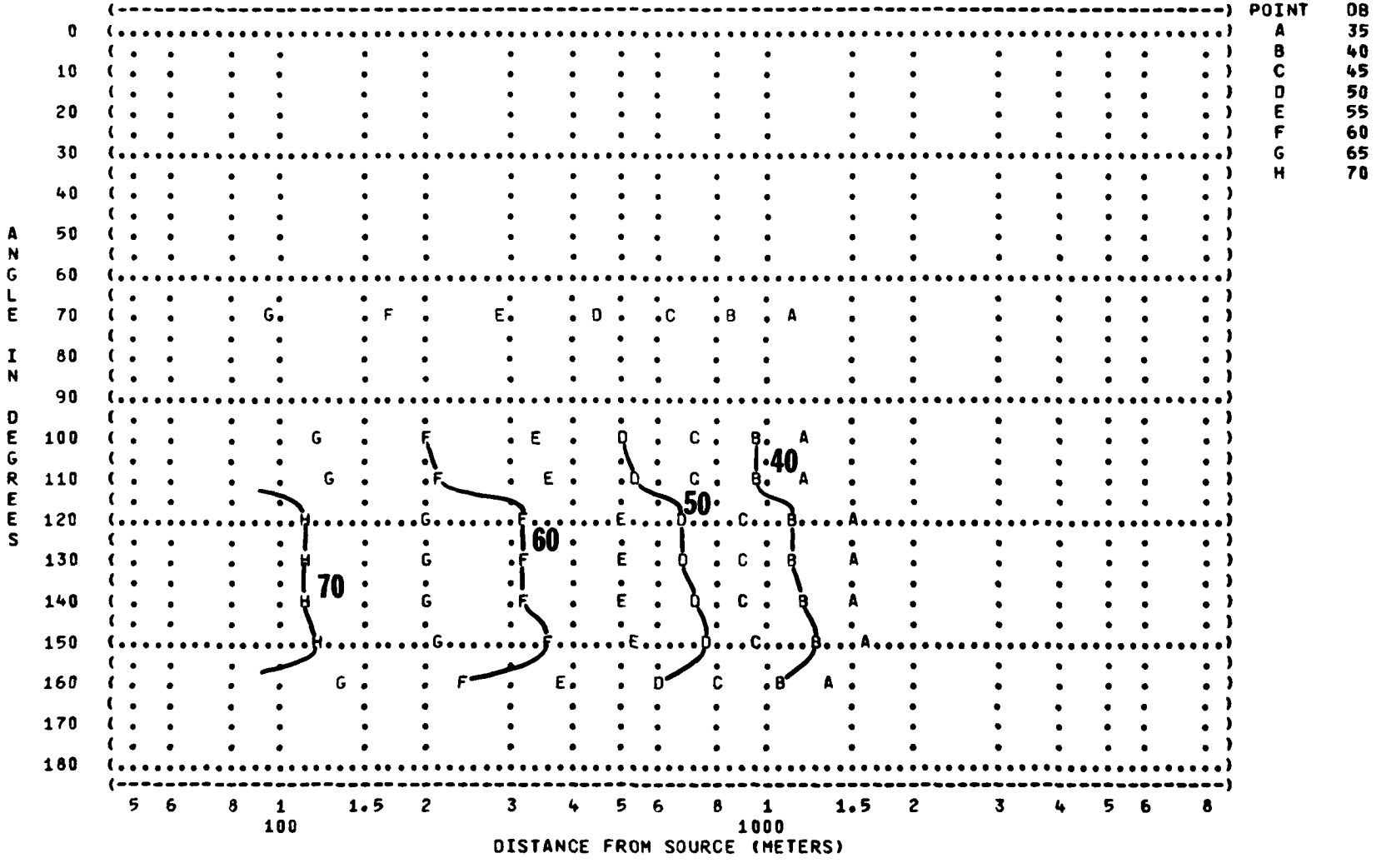


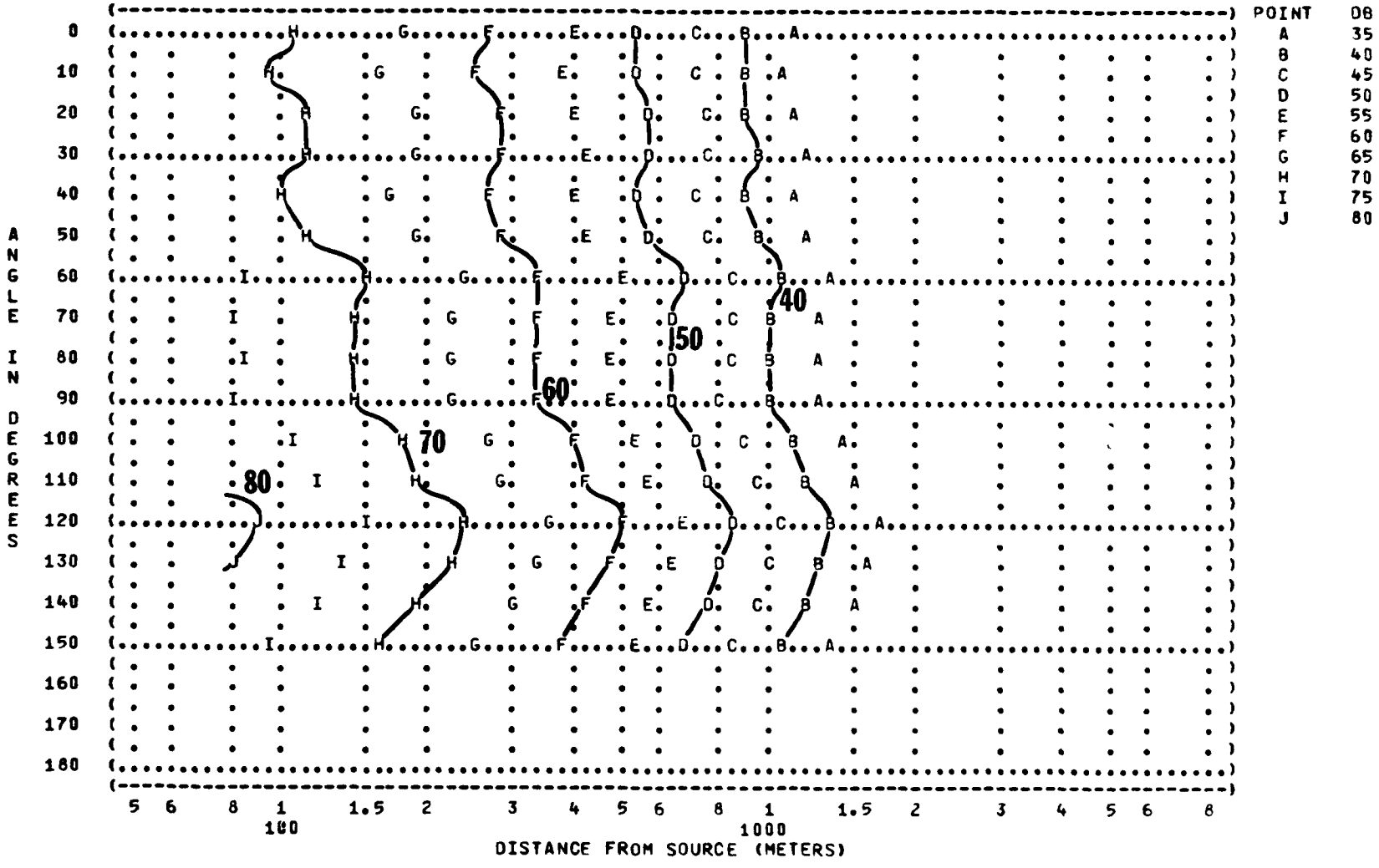
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 125 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
F-1000 AIRCRAFT
J57-P-21 ENGINE
GROUND RUNUP NOISE

OPERATION:
IDLE POWER
58% RPM
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-031
RUN 01
18 SEP 78
PAGE 20



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80

FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 250 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
GROUND RUNUP NOISE

OPERATION:
IDLE POWER
58% RPM
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-031
RUN 01
18 SEP 78
PAGE 21

POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80

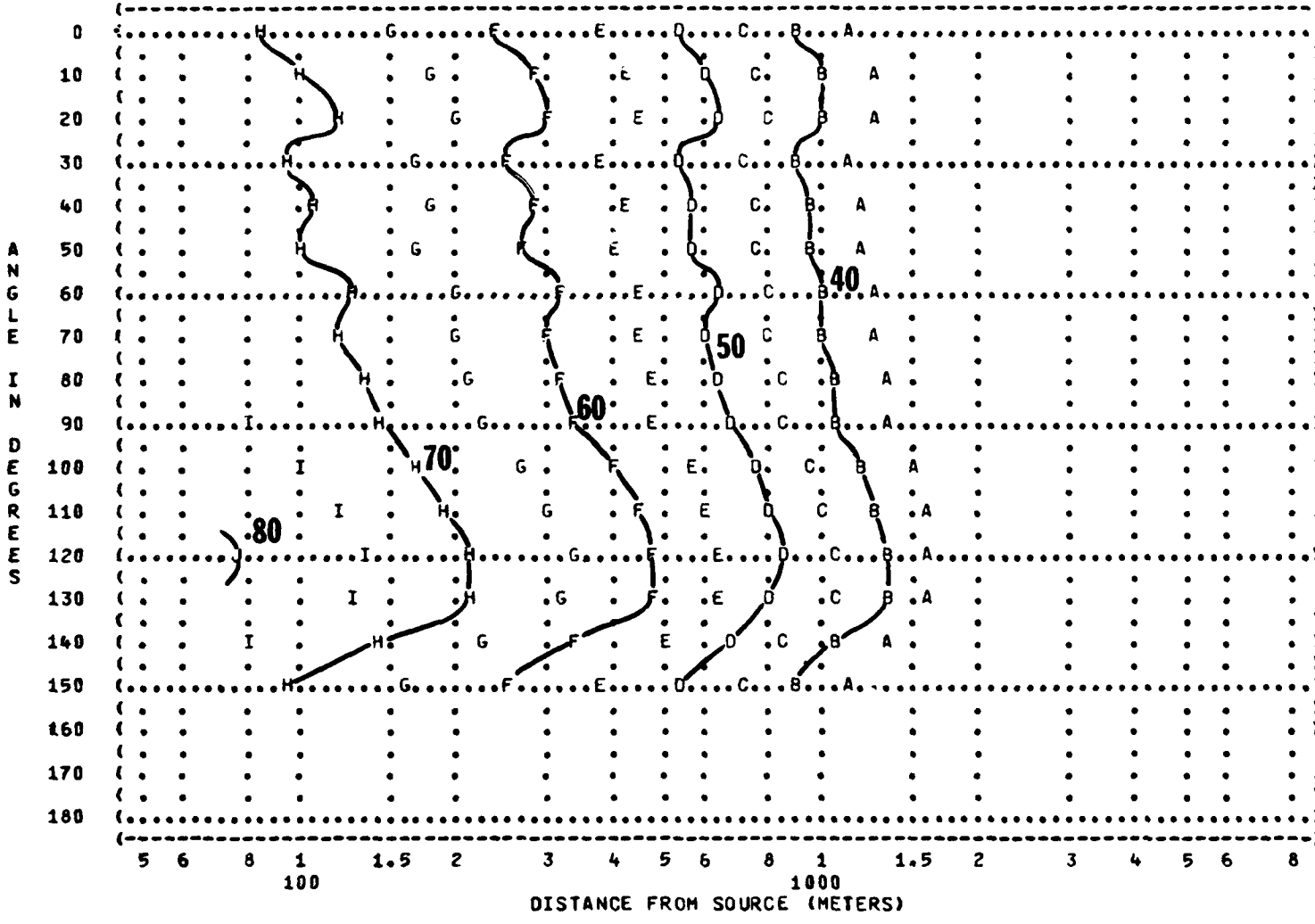


FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 500 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-031
RUN 01
18 SEP 78
PAGE 22

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
GROUND RUNUP NOISE

OPERATION:
IDLE POWER
58% RPM
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80

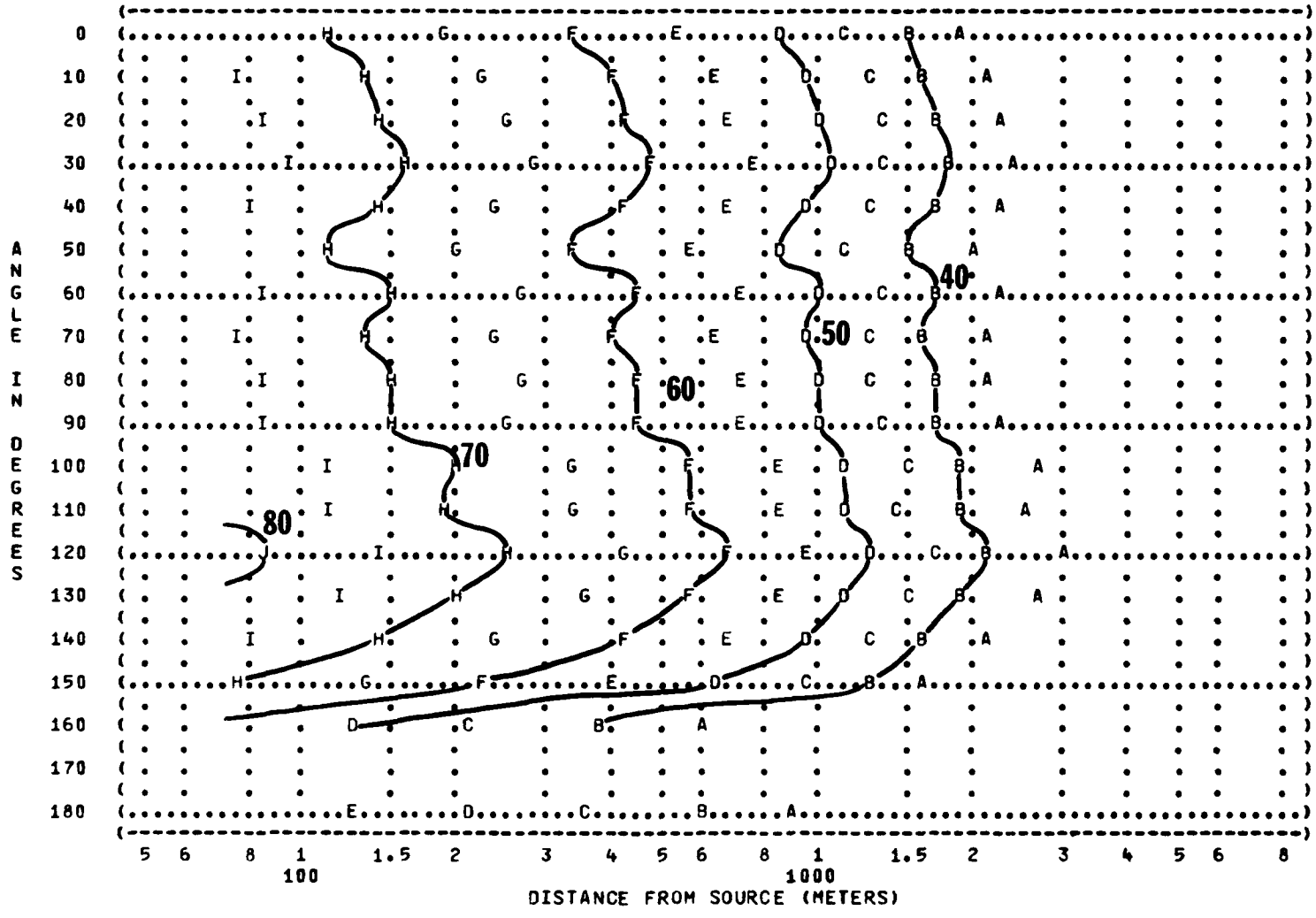


FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 1300 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
F-1000 AIRCRAFT
J57-P-21 ENGINE
GROUND RUNUP NOISE

OPERATION:
IDLE POWER
58% RPM
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-031
RUN 01
18 SEP 78
PAGE 23

POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75

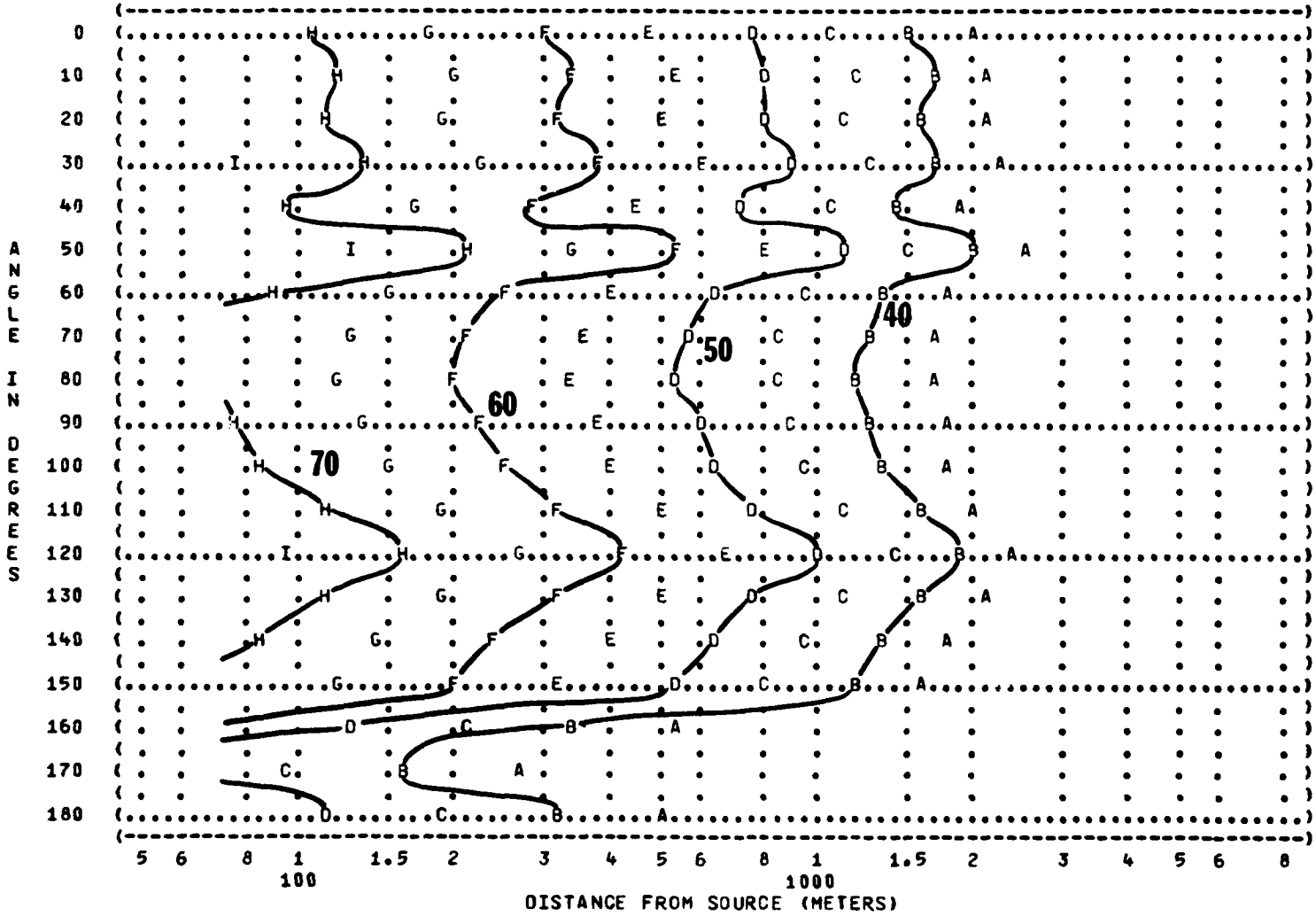


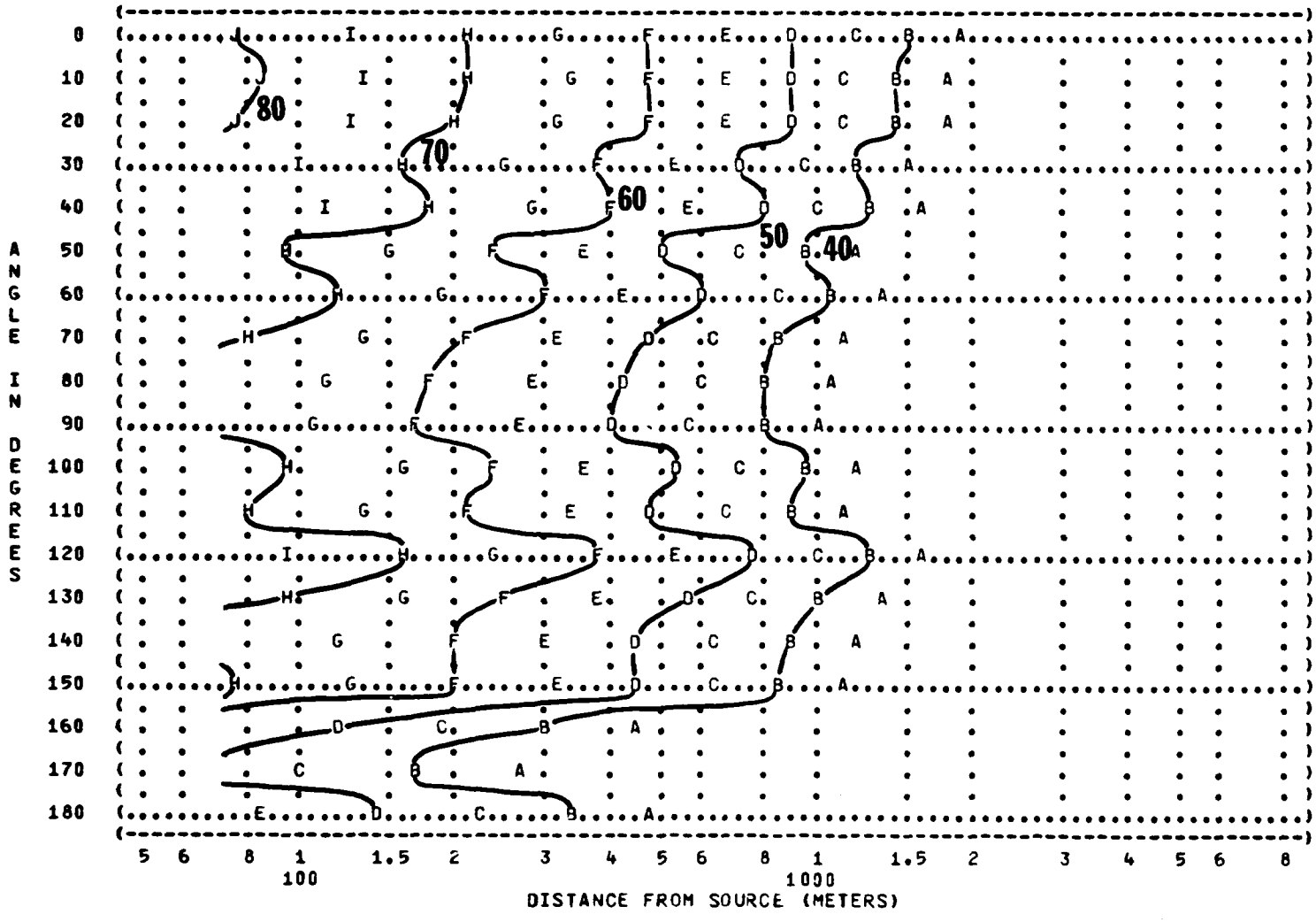
FIGURE 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 2000 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-031
RUN 01
18 SEP 78
PAGE 24

NOISE SOURCE/SUBJECT:
F-1000 AIRCRAFT
J57-P-21 ENGINE
GROUND RUNUP NOISE

OPERATION:
IDLE POWER
58% RPM
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80

FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 4000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
GROUND RUNUP NOISE

OPERATION:
IDLE POWER
58% RPM
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-031
RUN 01
18 SEP 78
PAGE 25

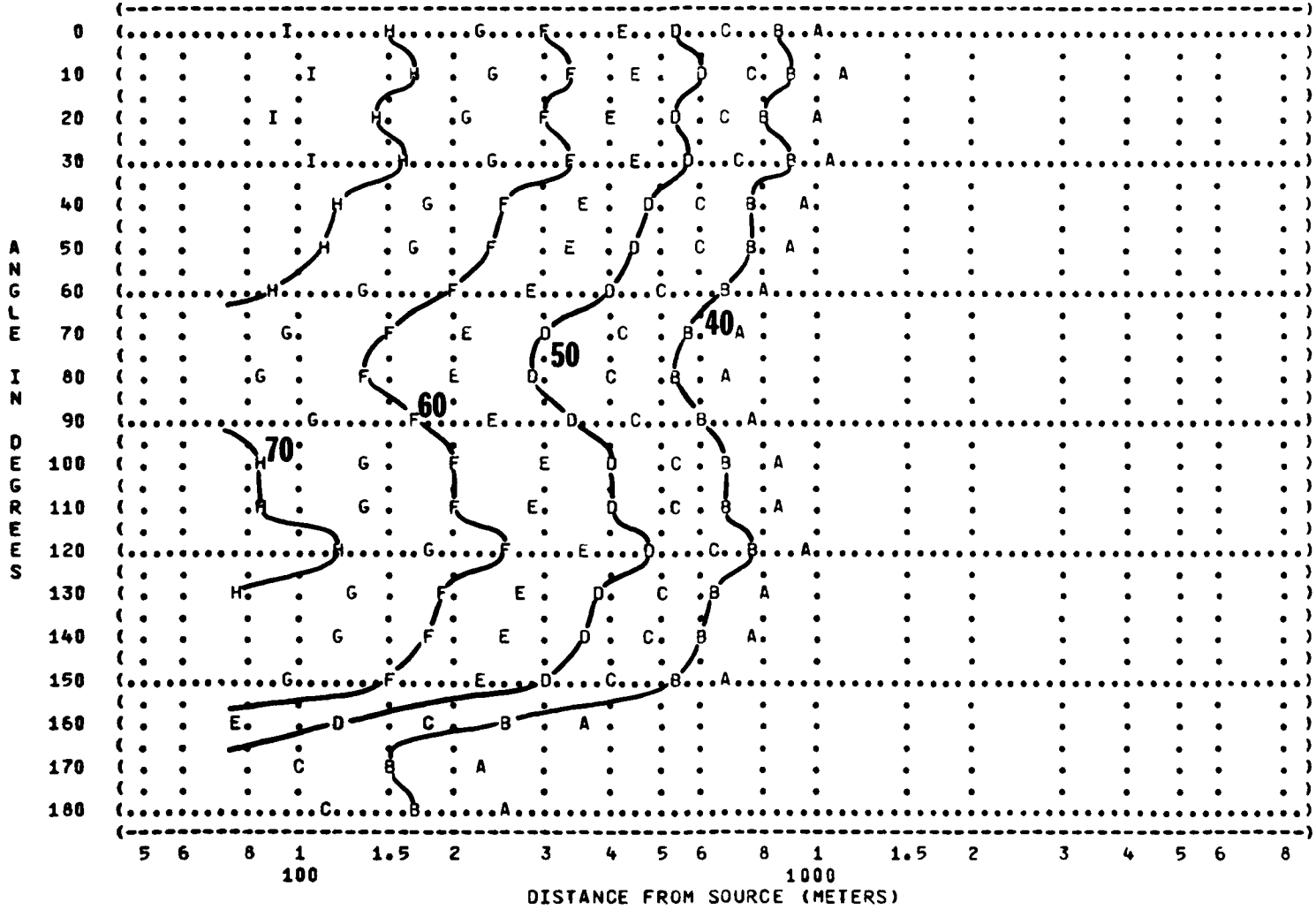


FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 8000 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-031
RUN 01
18 SEP 78
PAGE 26

NOISE SOURCE/SUBJECT:
F-1000 AIRCRAFT
J57-P-21 ENGINE
GROUND RUNUP NOISE

OPERATION:
IDLE POWER
58% RPM
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65

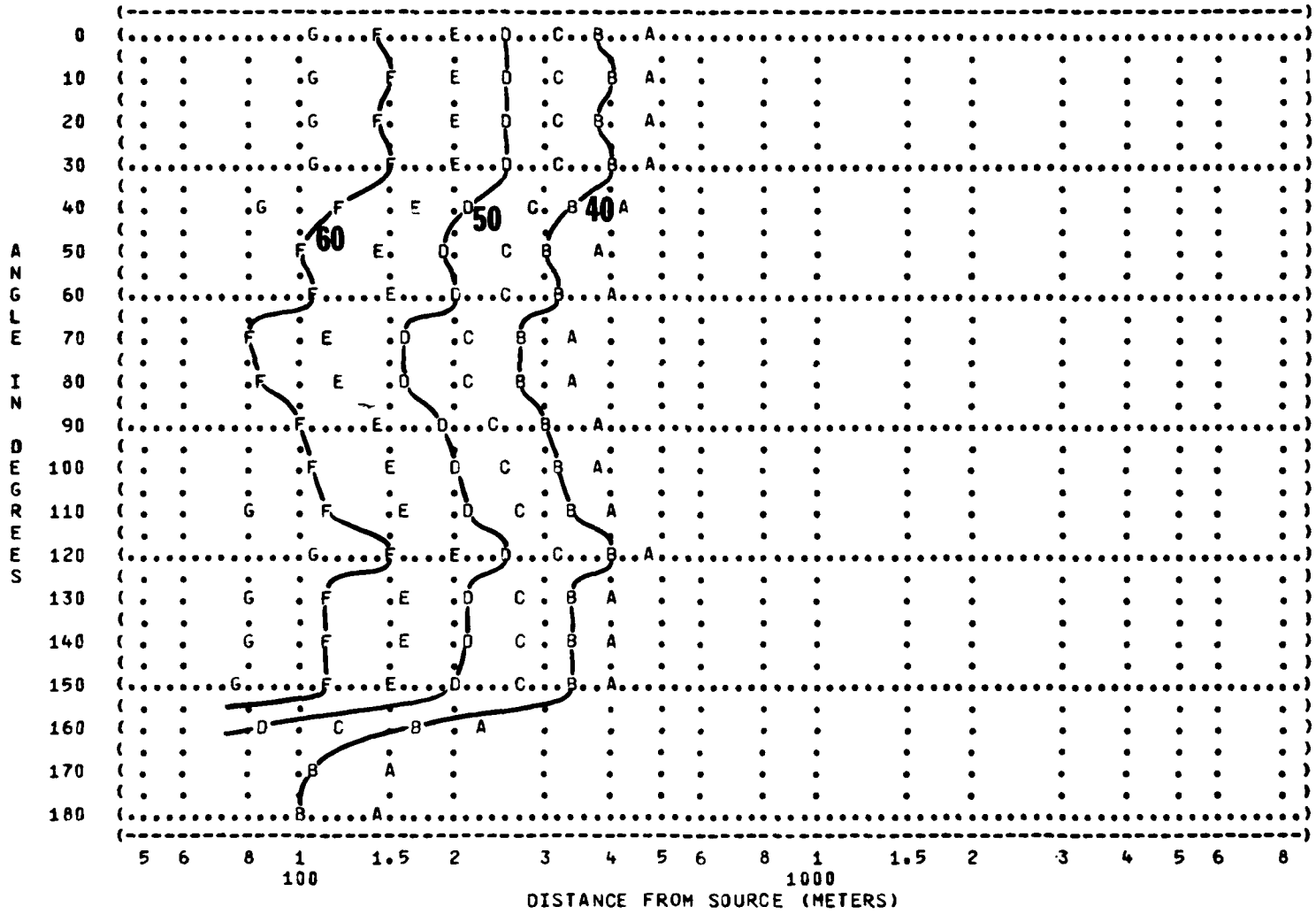


FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 31.5 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
GROUND RUNUP NOISE

OPERATION:
70% RPM
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-031
RUN 02
24 JAN 79
PAGE 18

POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80

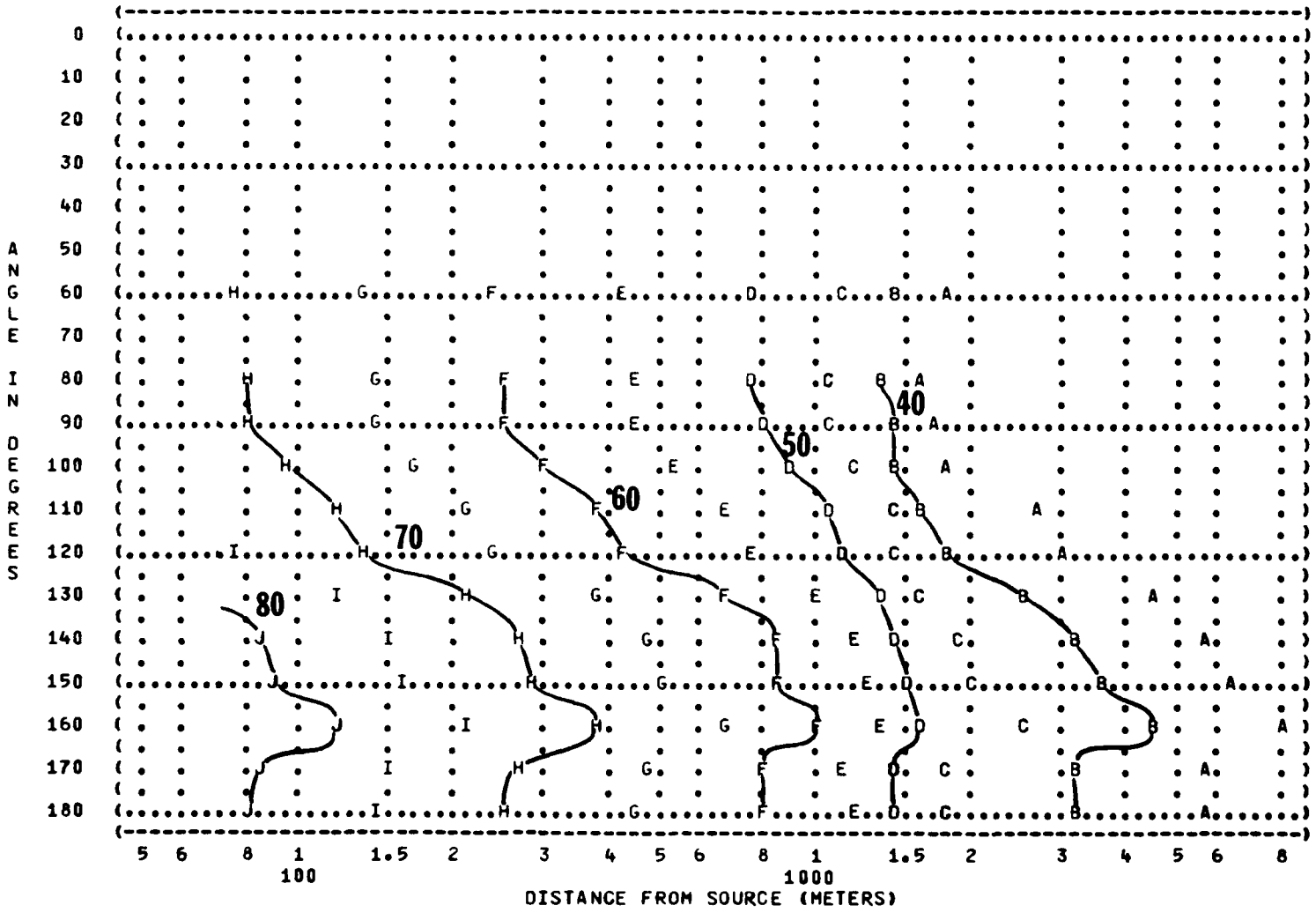


FIGURE 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 63 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
GROUND RUNUP NOISE

OPERATION:
70% RPM
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-031
RUN 02
24 JAN 79
PAGE 19

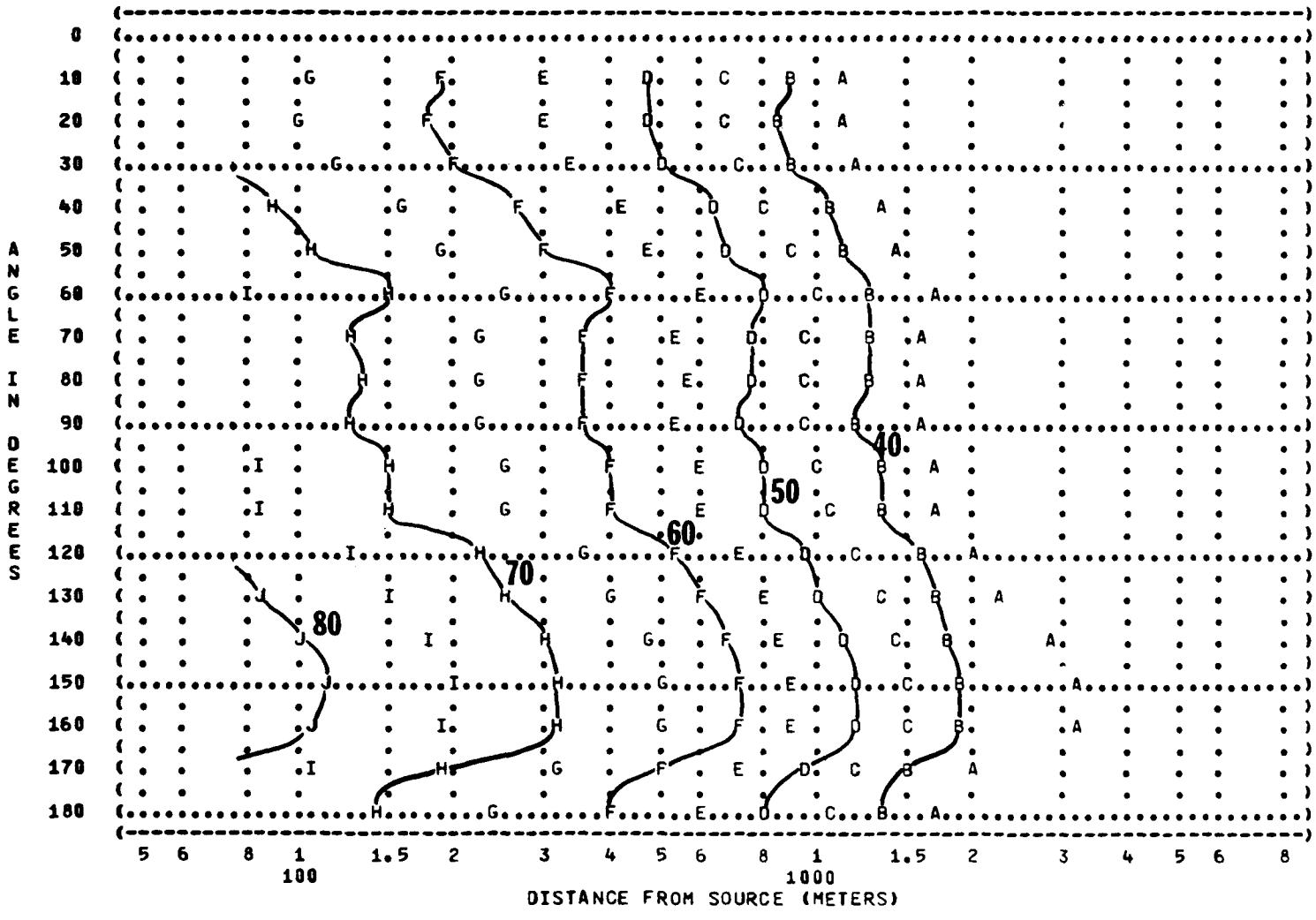


FIGURE 11: SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
125 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-031
RUN 02
24 JAN 79
PAGE 20

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
GROUND RUNUP NOISE

OPERATION:
70% RPM
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85

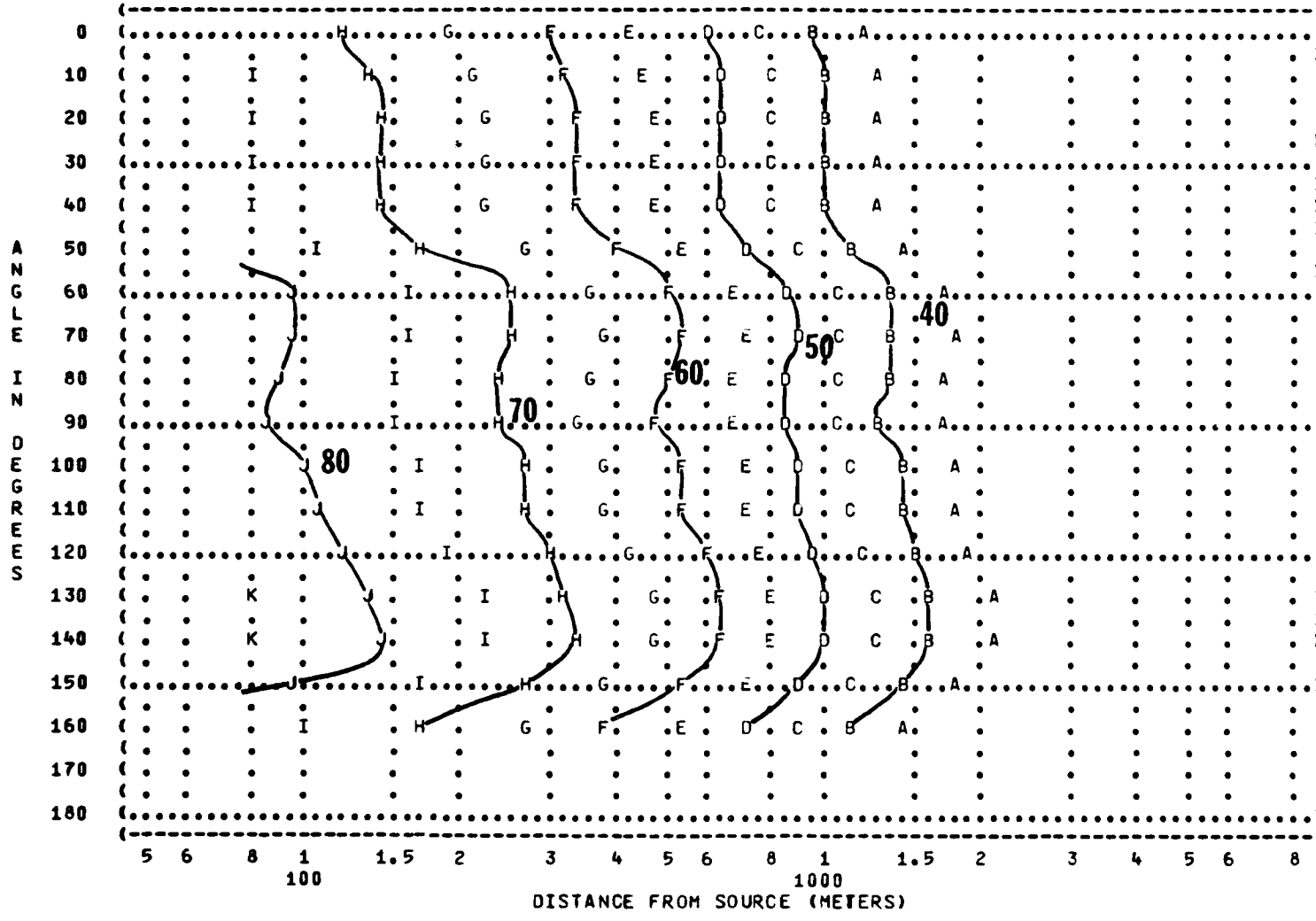


FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 250 HZ OCTAVE BAND

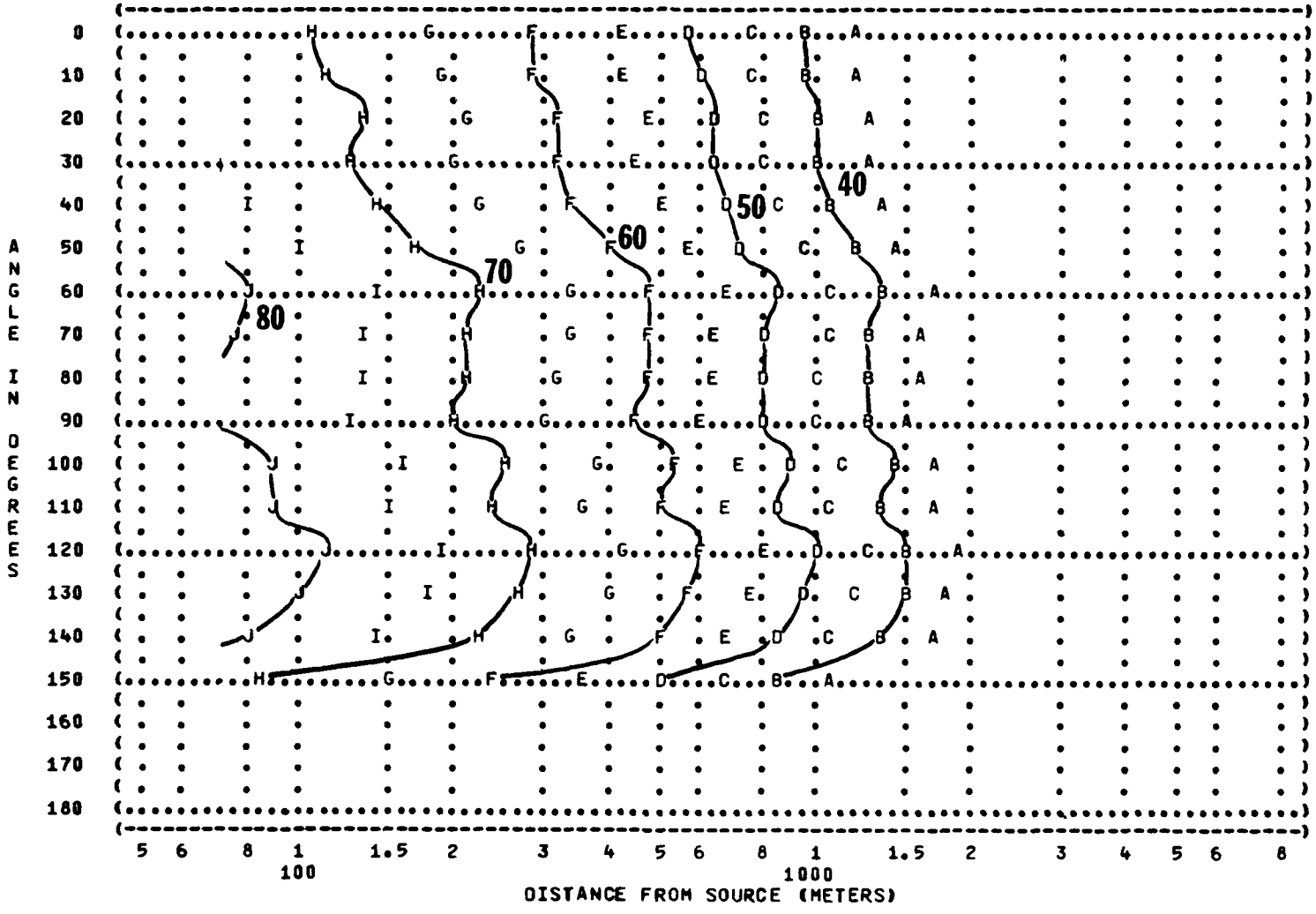
NOISE SOURCE/SUBJECT:
F-1000 AIRCRAFT
J57-P-21 ENGINE
GROUND RUNUP NOISE

OPERATION:
70% RPM
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-082-031
RUN 02
24 JAN 79
PAGE 21

POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80



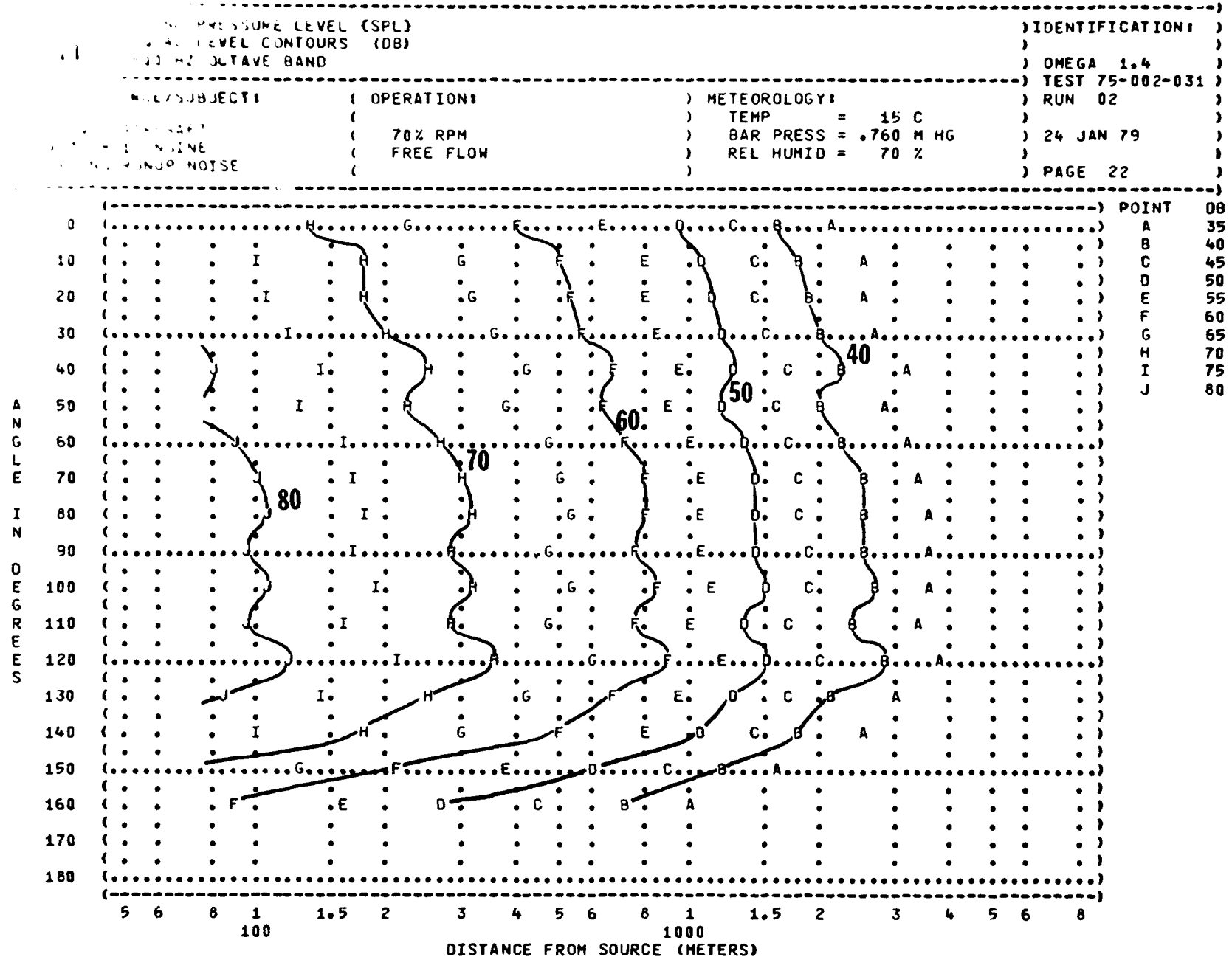

SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
1/3 OCTAVE BAND
IDENTIFICATION:
OMEGA 1.4
TEST 75-002-031
RUN 02
24 JAN 79
PAGE 22
OPERATION:
70% RPM
FREE FLOW
METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %
POINT DB
A 35
B 40
C 45
D 50
E 55
F 60
G 65
H 70
I 75
J 80
40
50
60
70
80
ANGLE IN DEGREES
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
5 6 8 1 1.5 2 3 4 5 6 8 1 1.5 2 3 4 5 6 8
100
1000
DISTANCE FROM SOURCE (METERS)

FIGURE: 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 1000 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-031
RUN 02
24 JAN 79
PAGE 23

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
GROUND RUNUP NOISE

OPERATION:
70% RPM
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

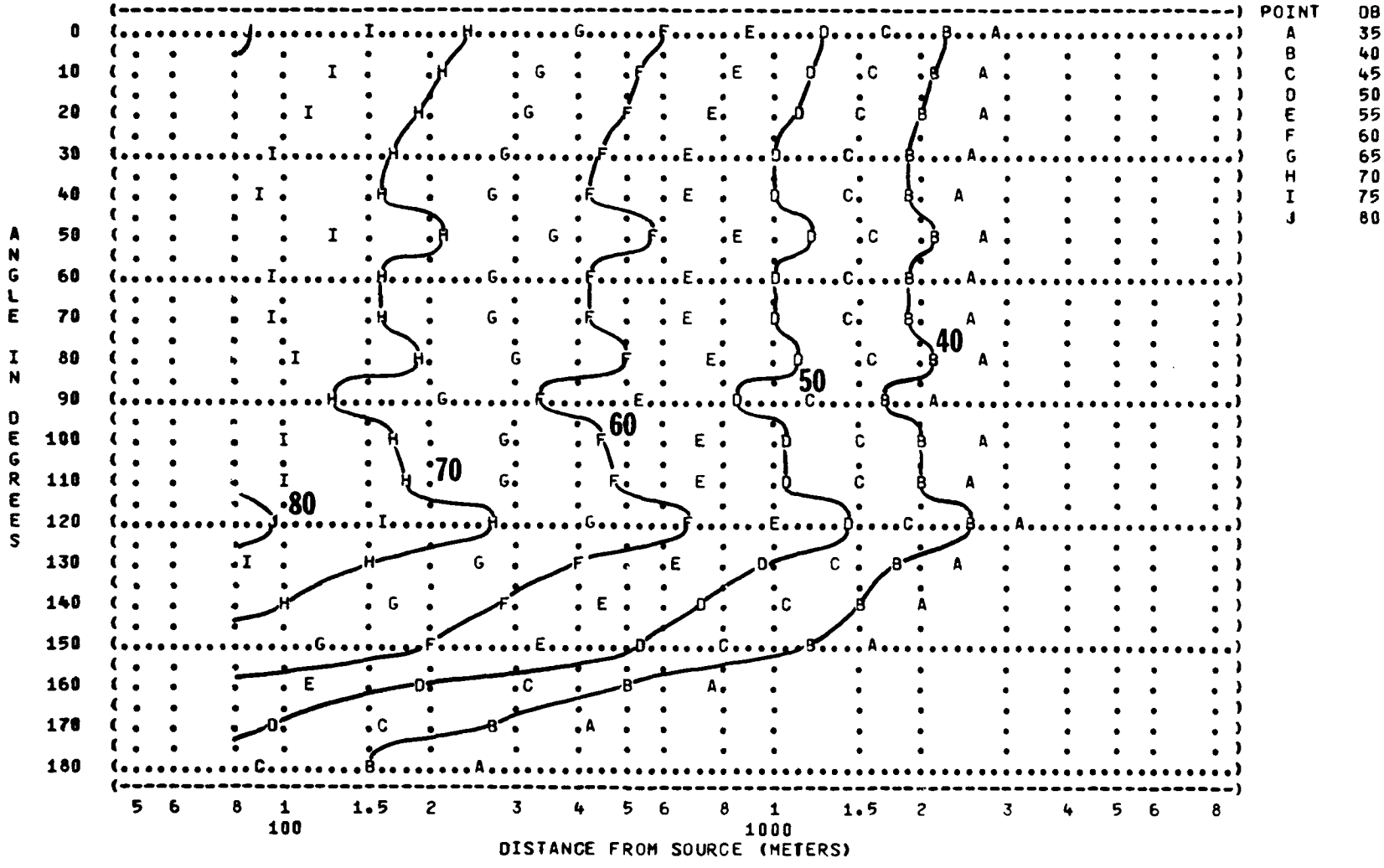


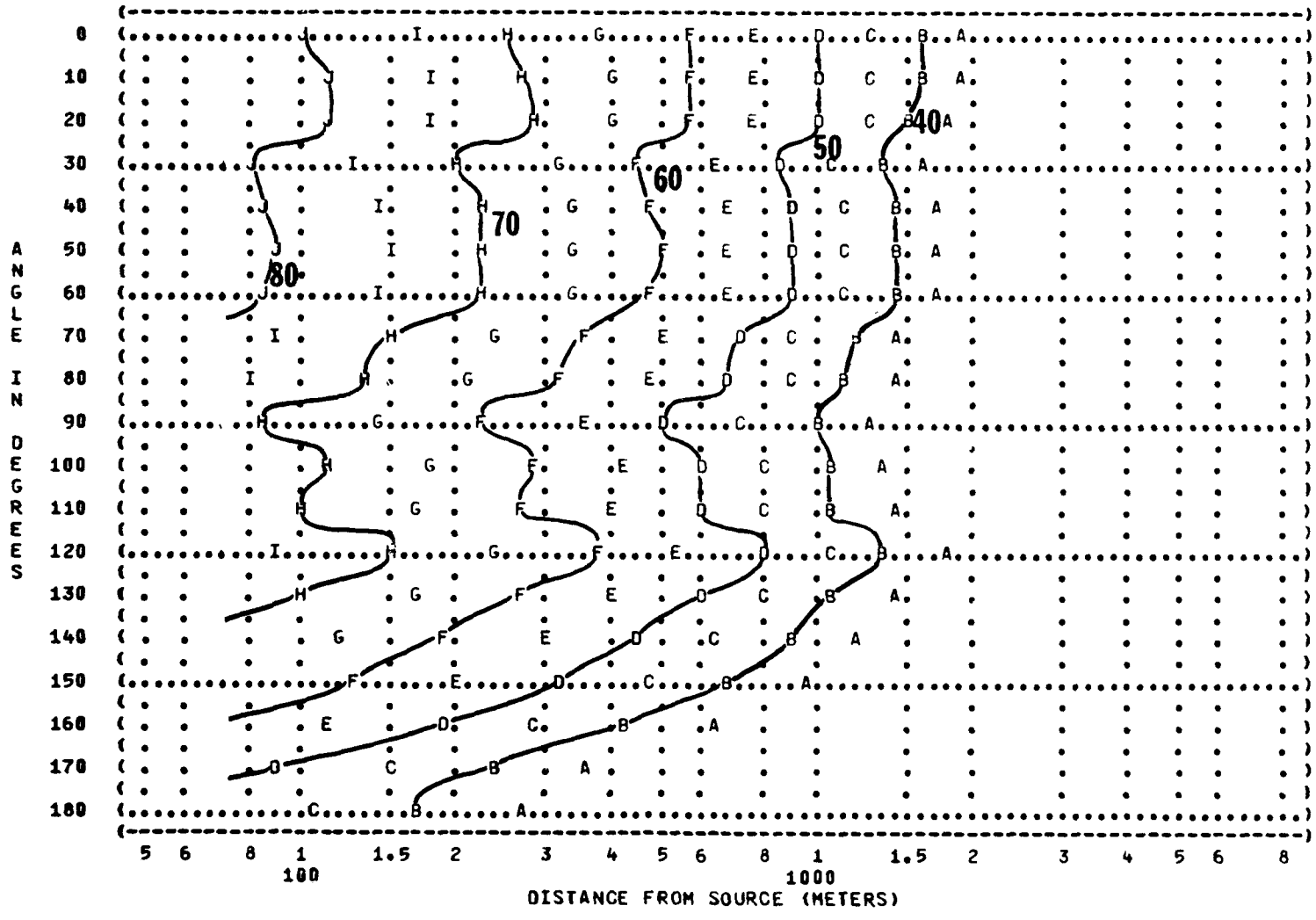
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 2000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
F-1000 AIRCRAFT
J57-P-21 ENGINE
GROUND RUNUP NOISE

OPERATION:
70% RPM
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-031
RUN 02
24 JAN 79
PAGE 24



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80

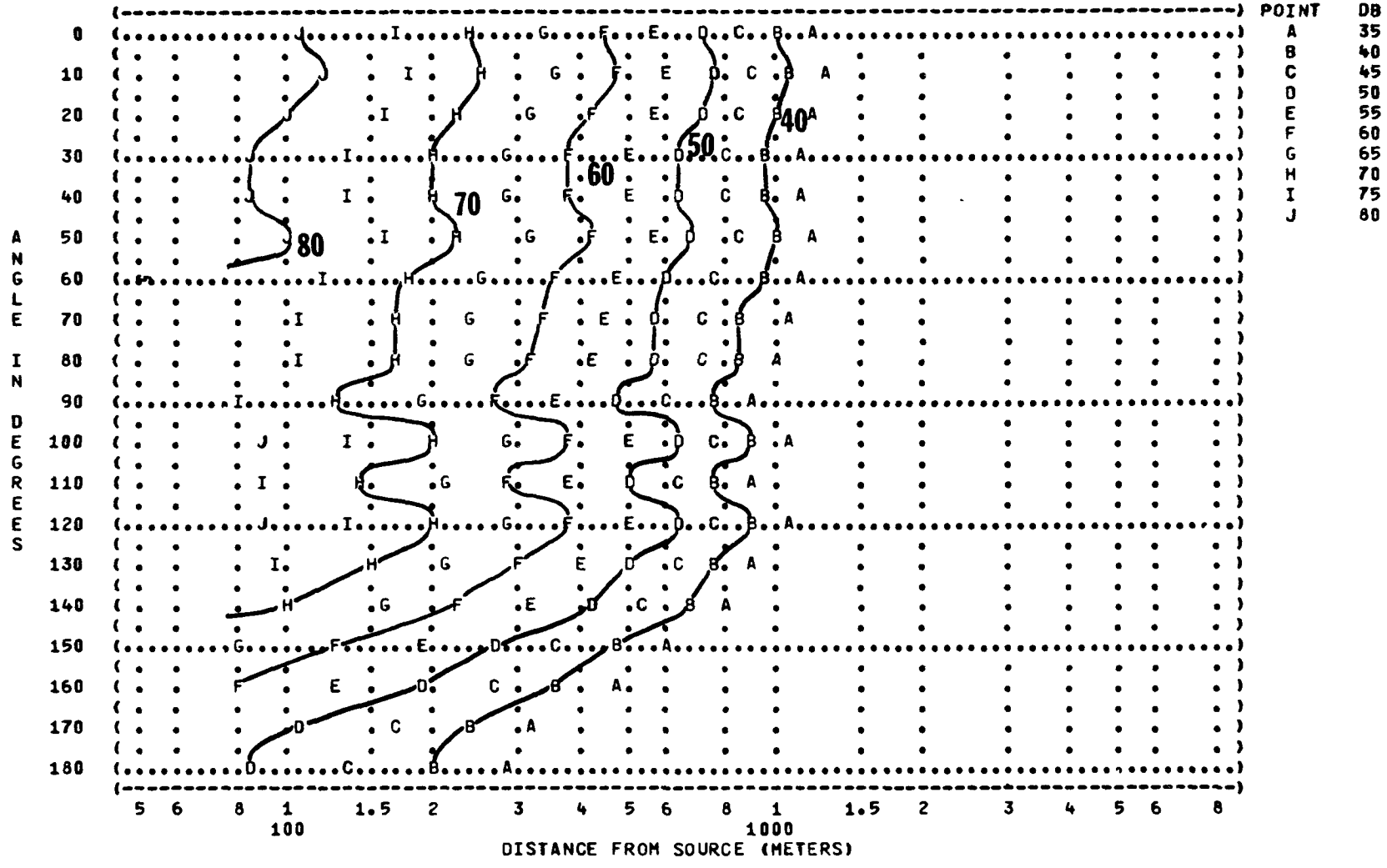
FIGURE 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 4000 HZ OCTAVE BAND

IDENTIFICATION: OMEGA 1.4 TEST 75-002-031 RUN 02 24 JAN 79 PAGE 25

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
GROUND RUNUP NOISE

OPERATION:
70% RPM
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80

FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 8000 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-031
RUN 02
24 JAN 79
PAGE 26

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
GROUND RUNUP NOISE

OPERATION:
70% RPM
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75

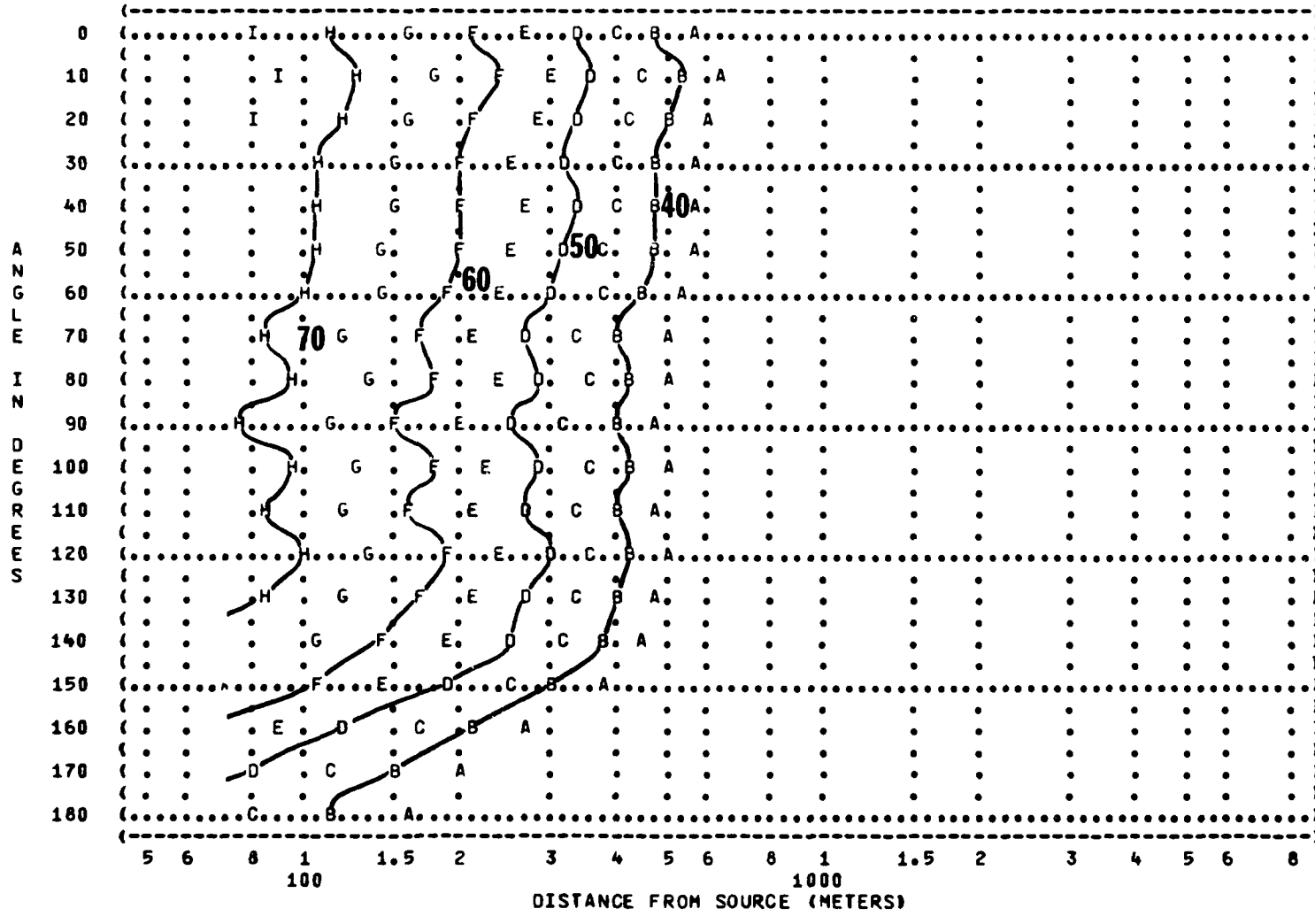


FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 31.5 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
97% RPM
DEFLECTED FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-062
RUN 01
18 SEP 78
PAGE 18

POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95
N	100

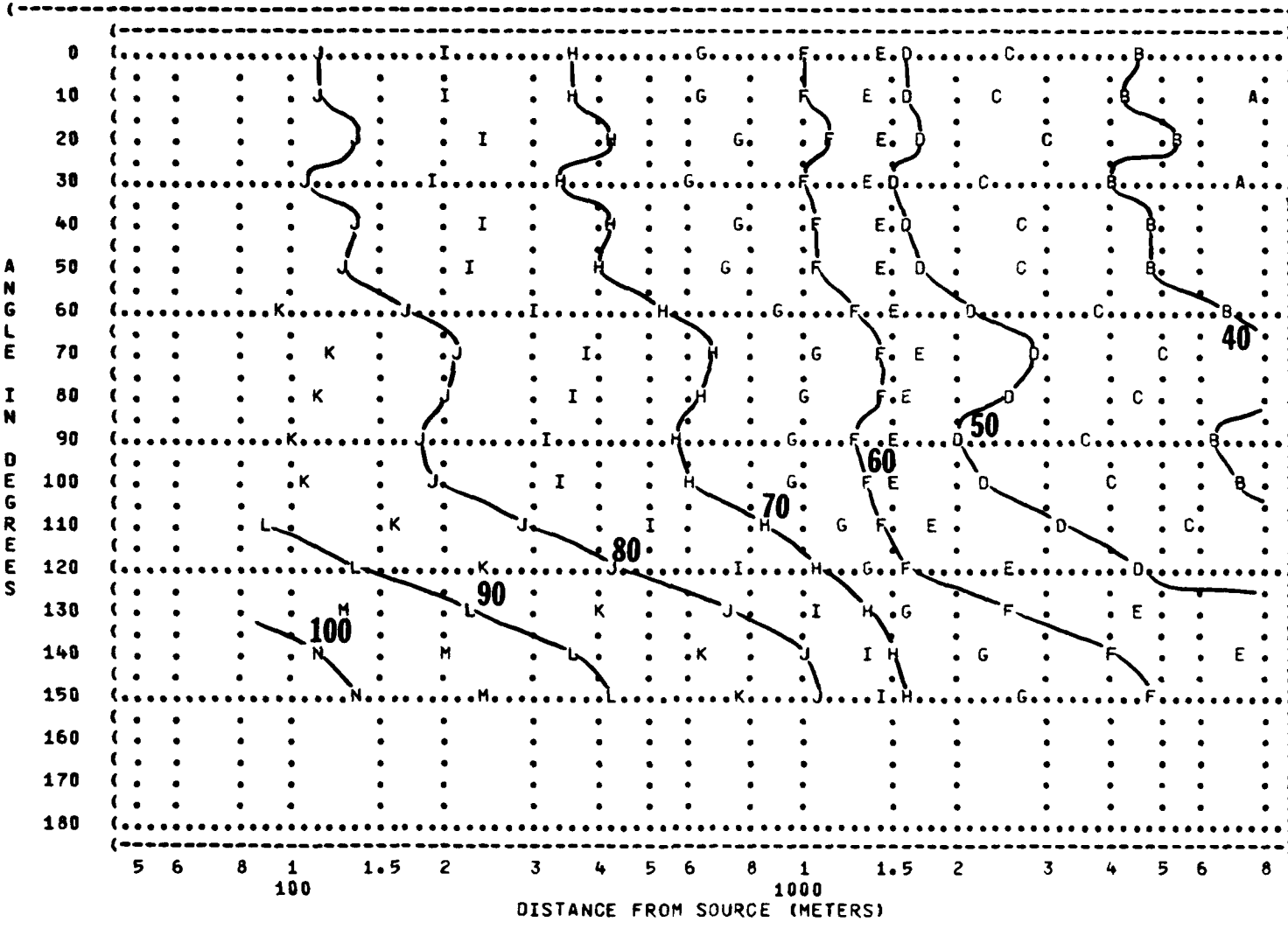


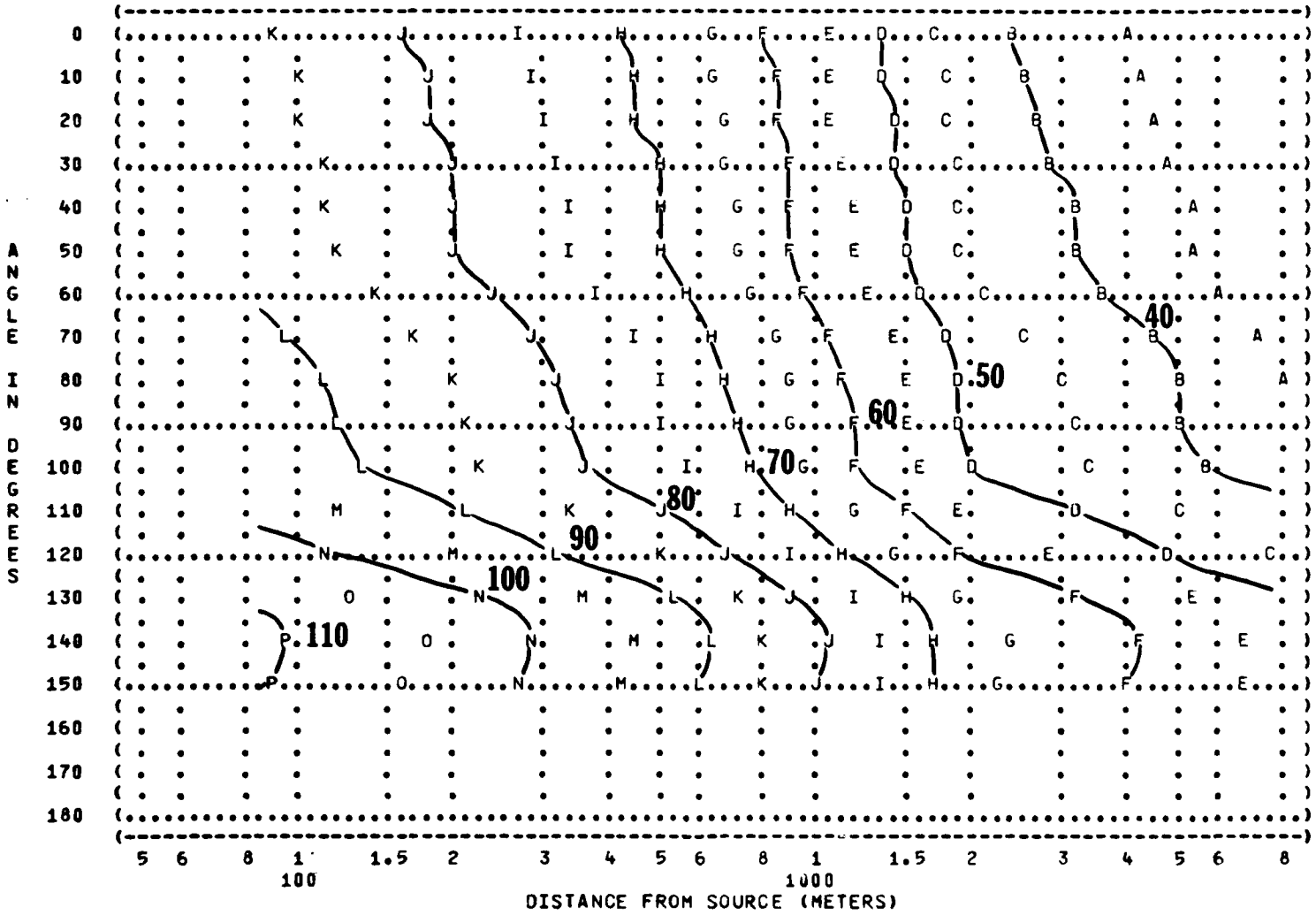
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 63 HZ OCTAVE BAND

IDENTIFICATION: OMEGA 1.4 / TEST 75-002-062 / RUN 01 / 18 SEP 78 / PAGE 19

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
97% RPM
DEFLECTED FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95
N	100
O	105
P	110

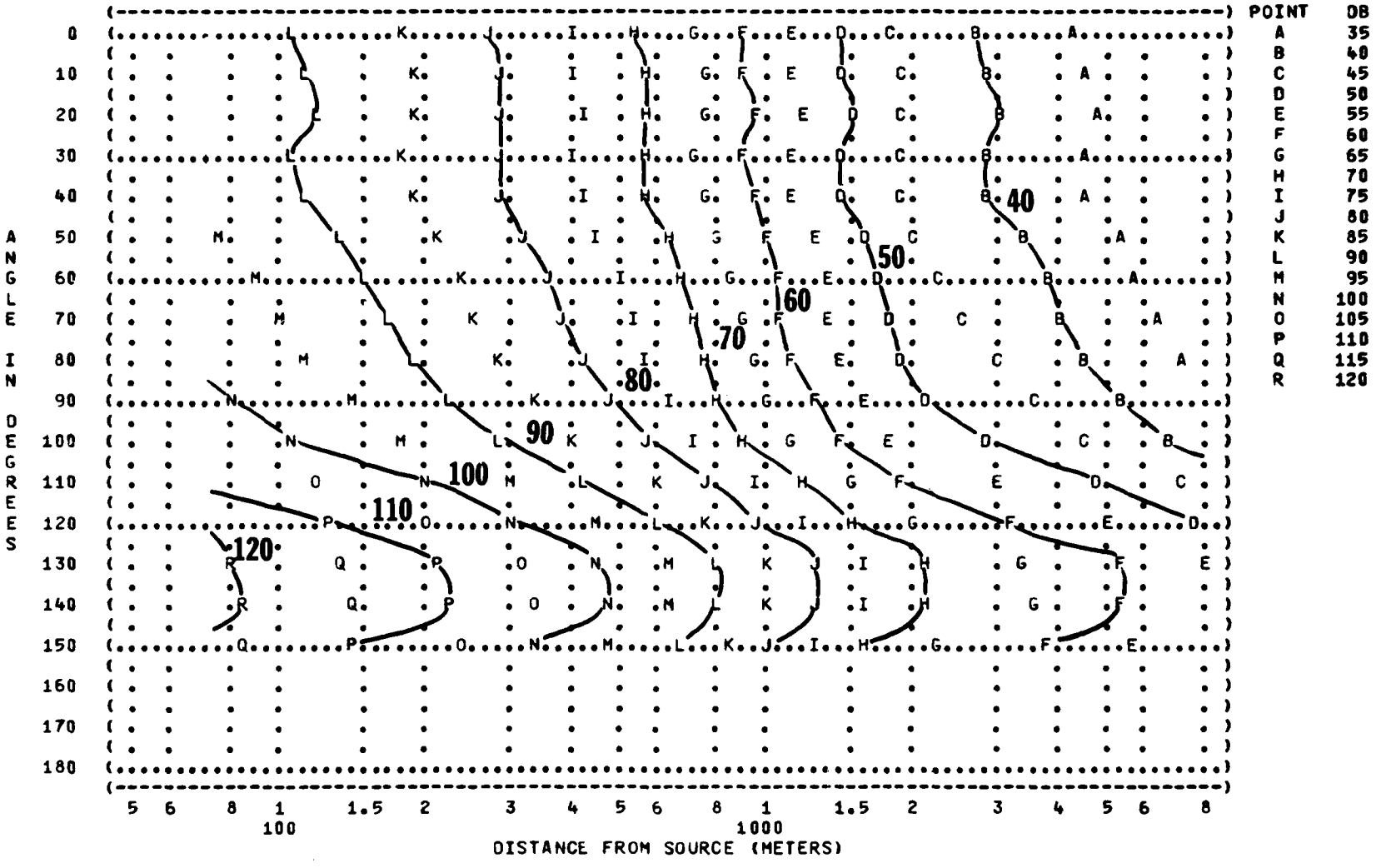
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 125 HZ OCTAVE BAND

IDENTIFICATION: OMEGA 1.4 TEST 75-002-062 RUN 01 18 SEP 78 PAGE 20

NOISE SOURCE/SUBJECT: F-100D AIRCRAFT; J57-P-21 ENGINE; FAR FIELD NOISE

OPERATION: MILITARY POWER; 97% RPM; DEFLECTED FLOW

METEOROLOGY: TEMP = 15 C; BAR PRESS = .760 M HG; REL HUMID = 70 %



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95
N	100
O	105
P	110
Q	115
R	120

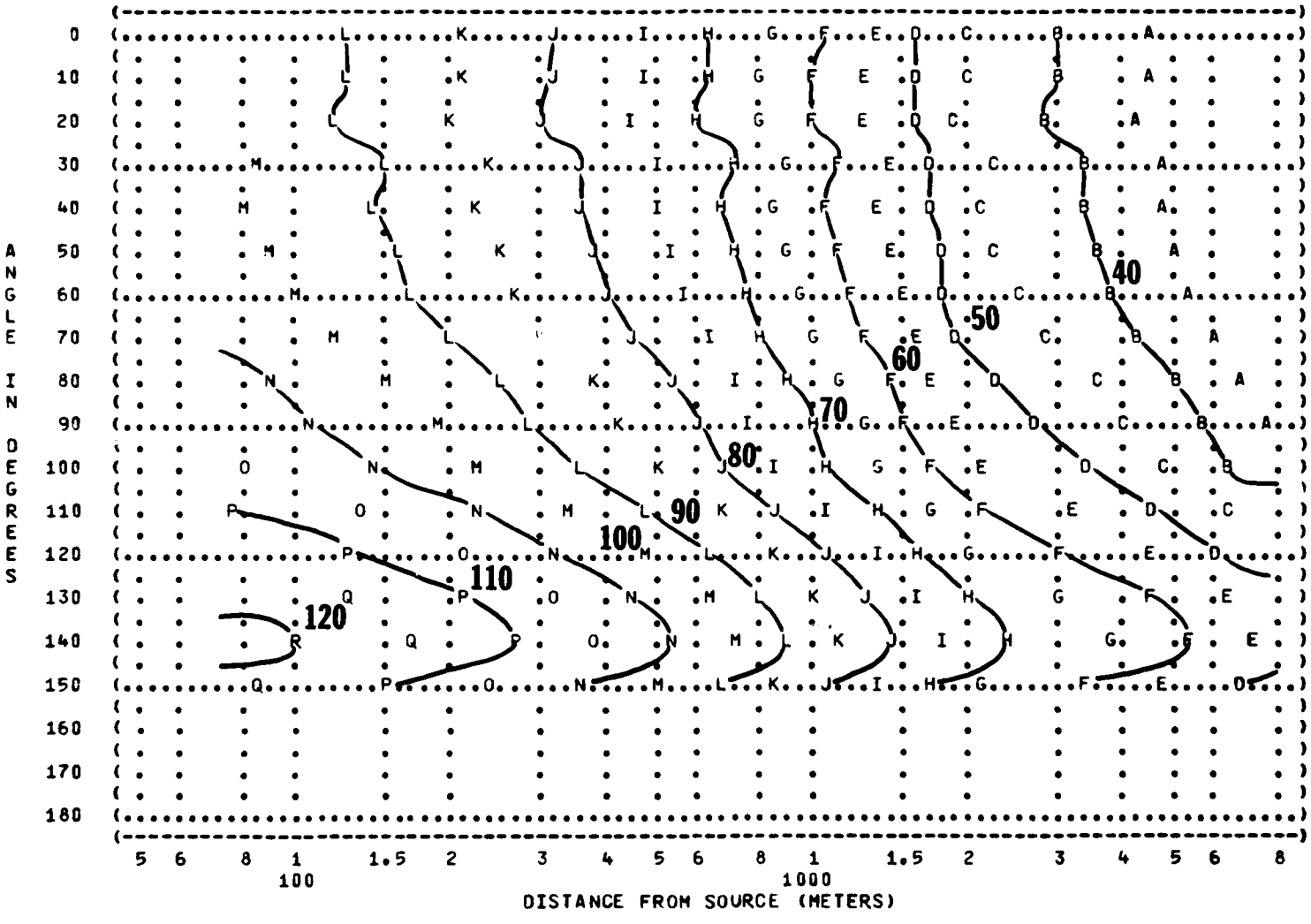
FIGURE 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 250 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
97% RPM
DEFLECTED FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-062
RUN 01
18 SEP 78
PAGE 21



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95
N	100
O	105
P	110
Q	115
R	120

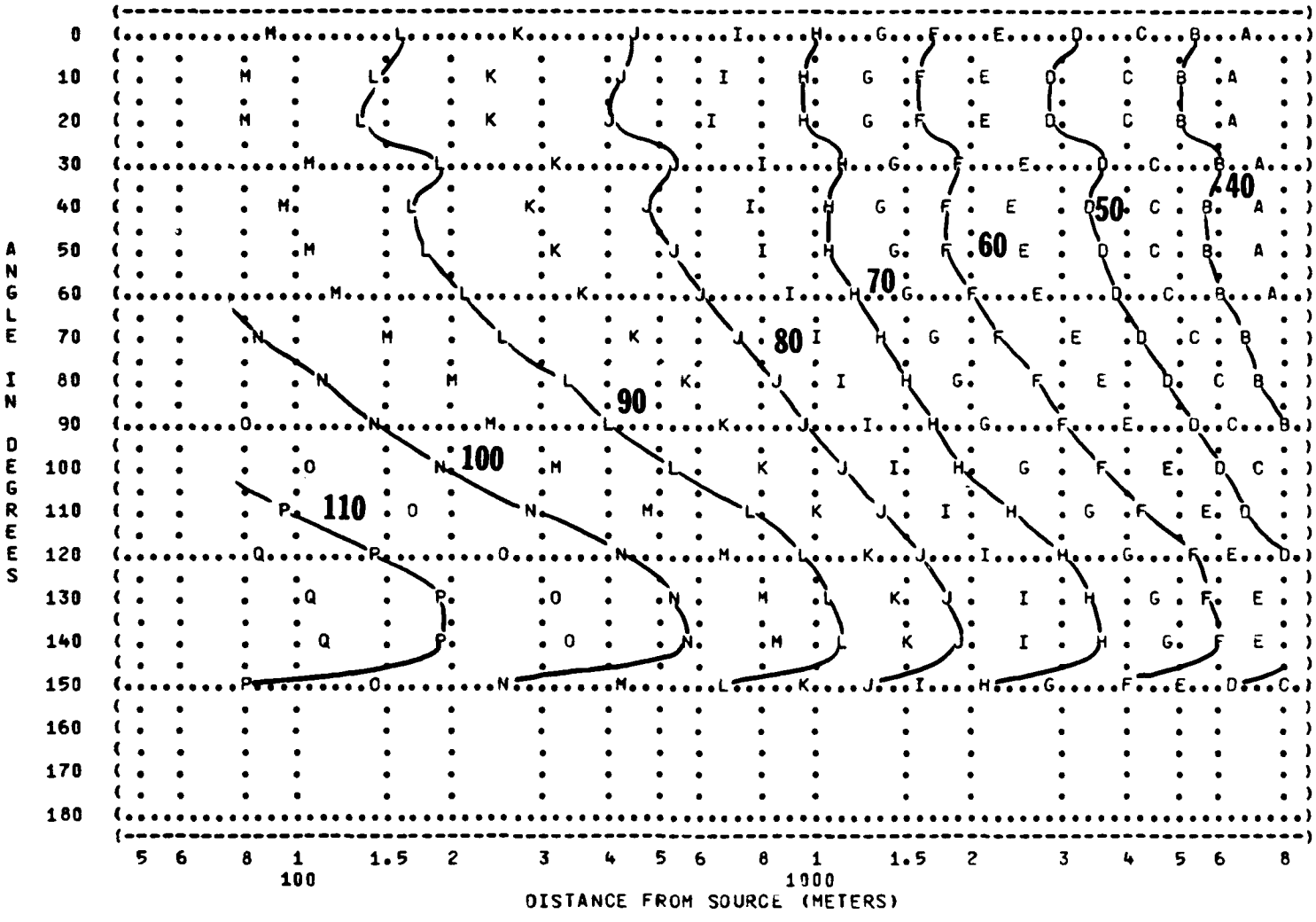
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 500 HZ OCTAVE BAND

IDENTIFICATION: OMEGA 1.4 / TEST 75-002-062 / RUN 01 / 18 SEP 78 / PAGE 22

NOISE SOURCE/SUBJECT: F-100D AIRCRAFT / J57-P-21 ENGINE / FAR FIELD NOISE

OPERATION: MILITARY POWER / 97% RPM / DEFLECTED FLOW

METEOROLOGY: TEMP = 15 C / BAR PRESS = .760 M HG / REL HUMID = 70 %



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95
N	100
O	105
P	110
Q	115

FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 1000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
F-1000 AIRCRAFT
J57-P-21 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
97% RPM
DEFLECTED FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-062
RUN 01
18 SEP 78
PAGE 23

POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95
N	100
O	105
P	110

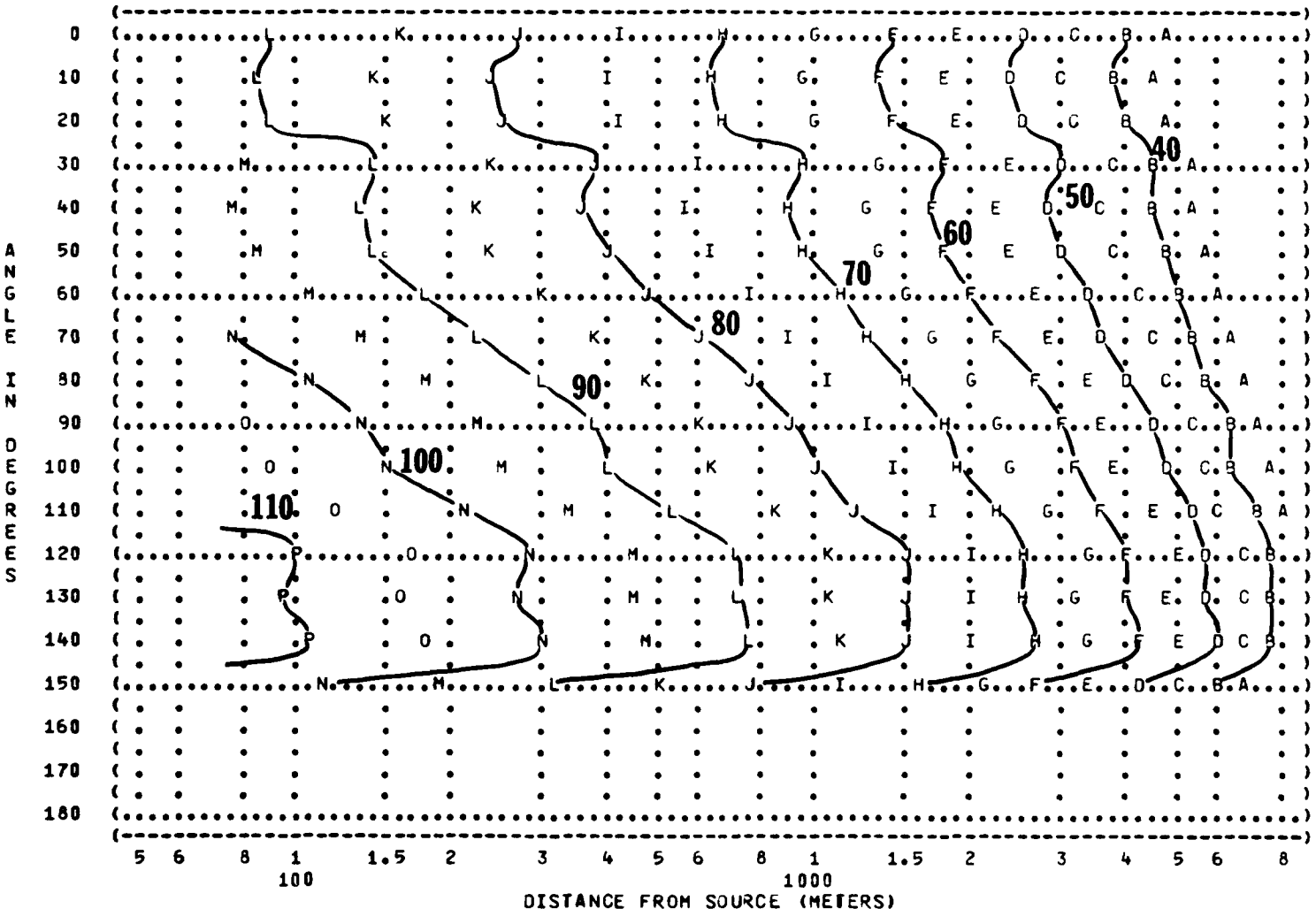


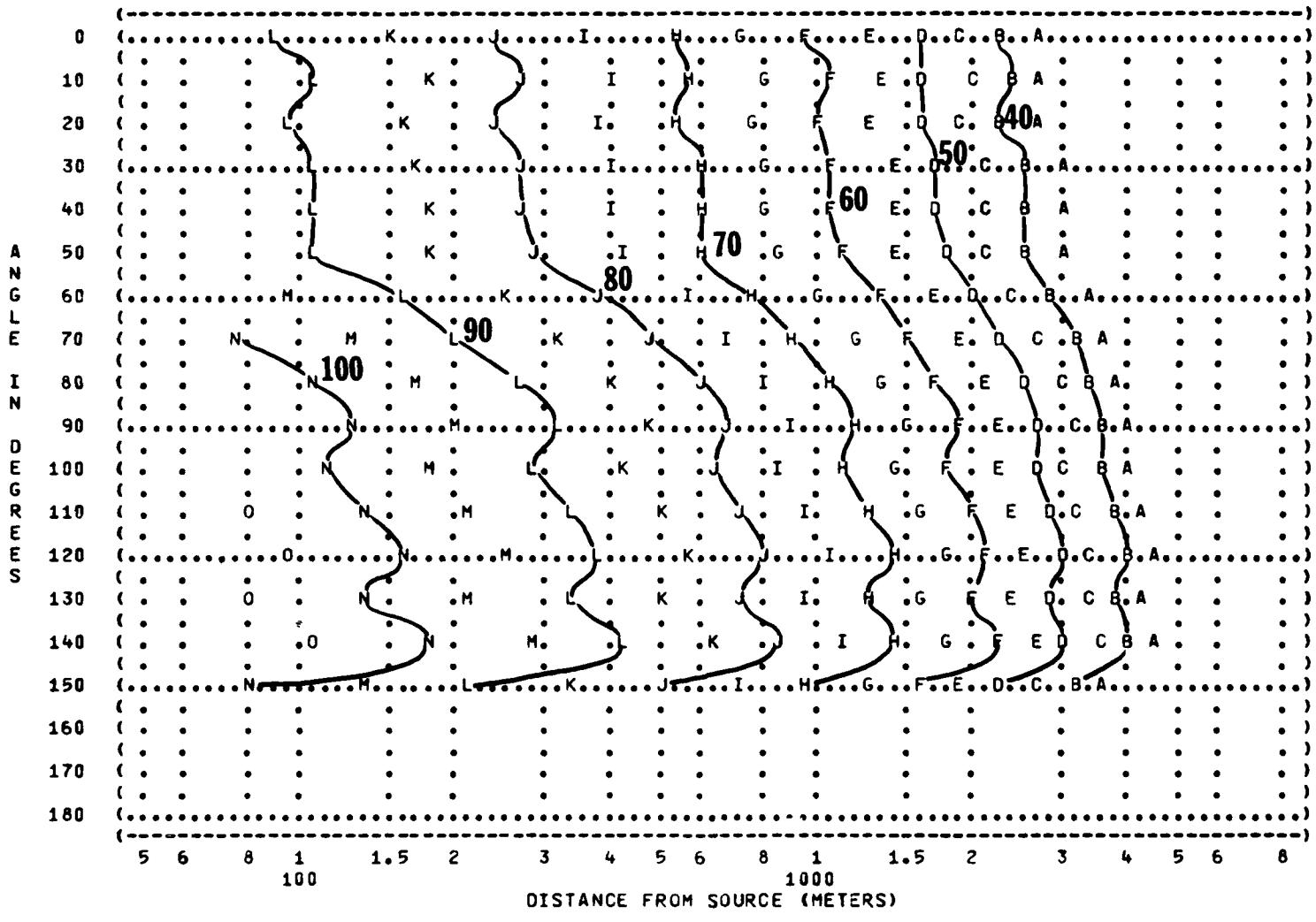
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 2000 HZ OCTAVE BAND

IDENTIFICATION: OMEGA 1.4 TEST 75-002-062 RUN 01 18 SEP 78 PAGE 24

NOISE SOURCE/SUBJECT: F-100D AIRCRAFT; J57-P-21 ENGINE; FAR FIELD NOISE

OPERATION: MILITARY POWER; 97% RPM; DEFLECTED FLOW

METEOROLOGY: TEMP = 15 C; BAR PRESS = .760 M HG; REL HUMID = 70 %



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95
N	100
O	105

FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 4000 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 75-C02-062
RUN 01
18 SEP 78
PAGE 25

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
97% RPM
DEFLECTED FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95
N	100

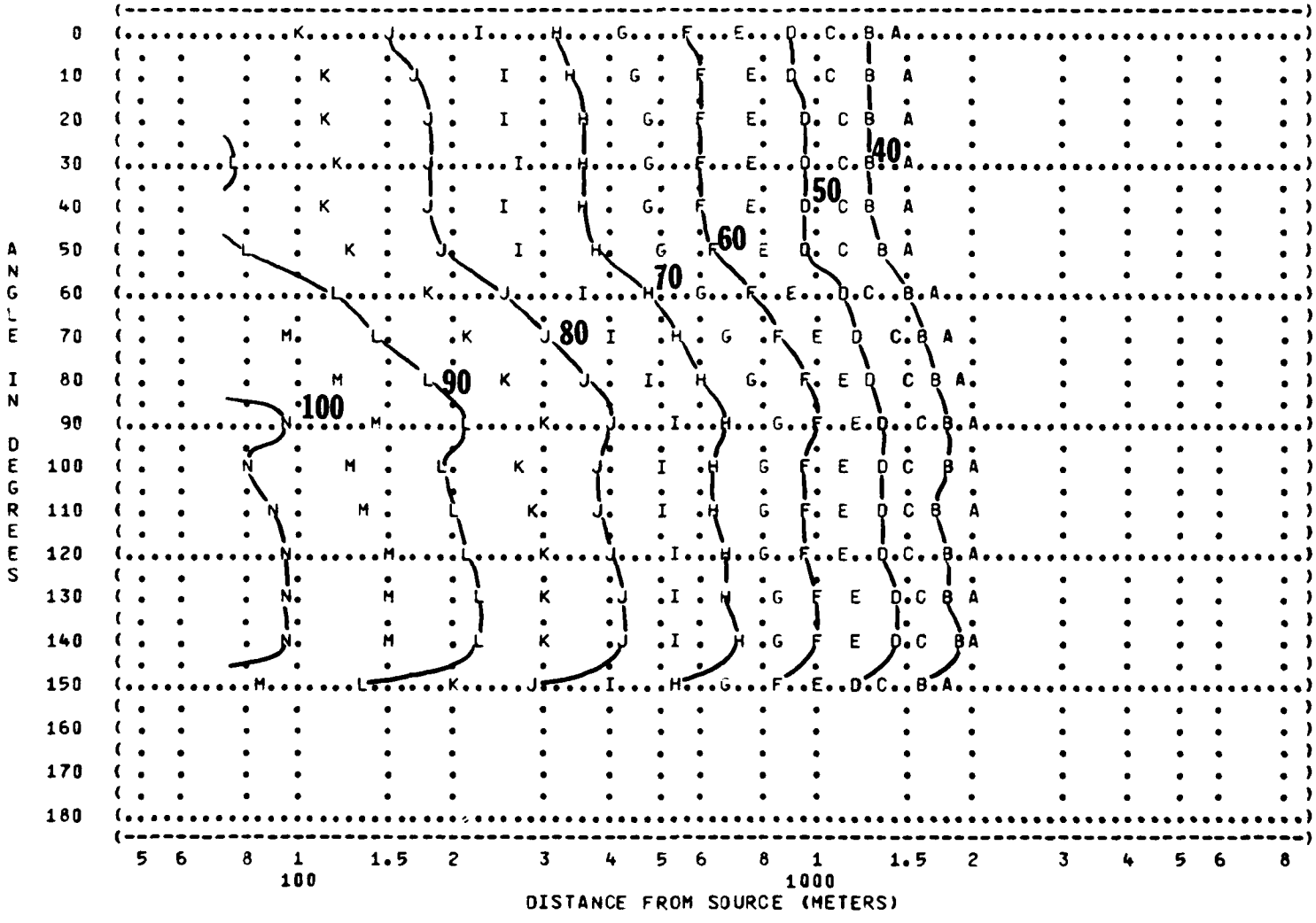


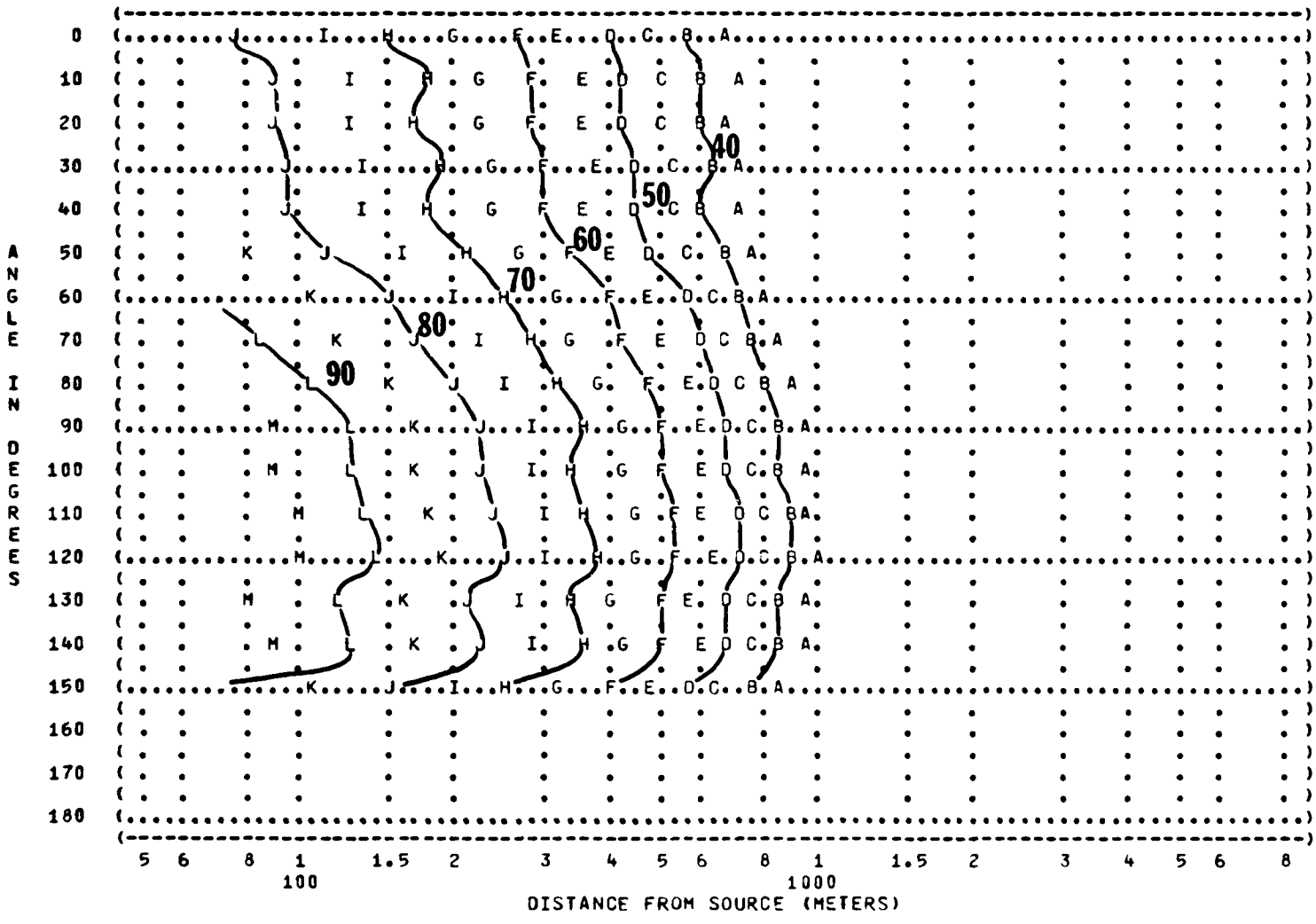
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 8000 HZ OCTAVE BAND

IDENTIFICATION: OMEGA 1.4 TEST 75-002-062 RUN 01 18 SEP 78 PAGE 26

NOISE SOURCE/SUBJECT: F-100D AIRCRAFT, J57-P-21 ENGINE, FAR FIELD NOISE

OPERATION: MILITARY POWER, 97% RPM, DEFLECTED FLOW

METEOROLOGY: TEMP = 15 C, BAR PRESS = .760 M HG, REL HUMID = 70 %



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95

AD-A083 934 AIR FORCE AEROSPACE MEDICAL RESEARCH LAB WRIGHT-PATT--ETC F/G 1/2
USAF BIOENVIRONMENTAL NOISE DATA HANDBOOK. VOLUME 123. F-100D A--ETC(U)
AUG 79 R G POWELL
UNCLASSIFIED AMRL-TR-75-50-VOL-123 NL

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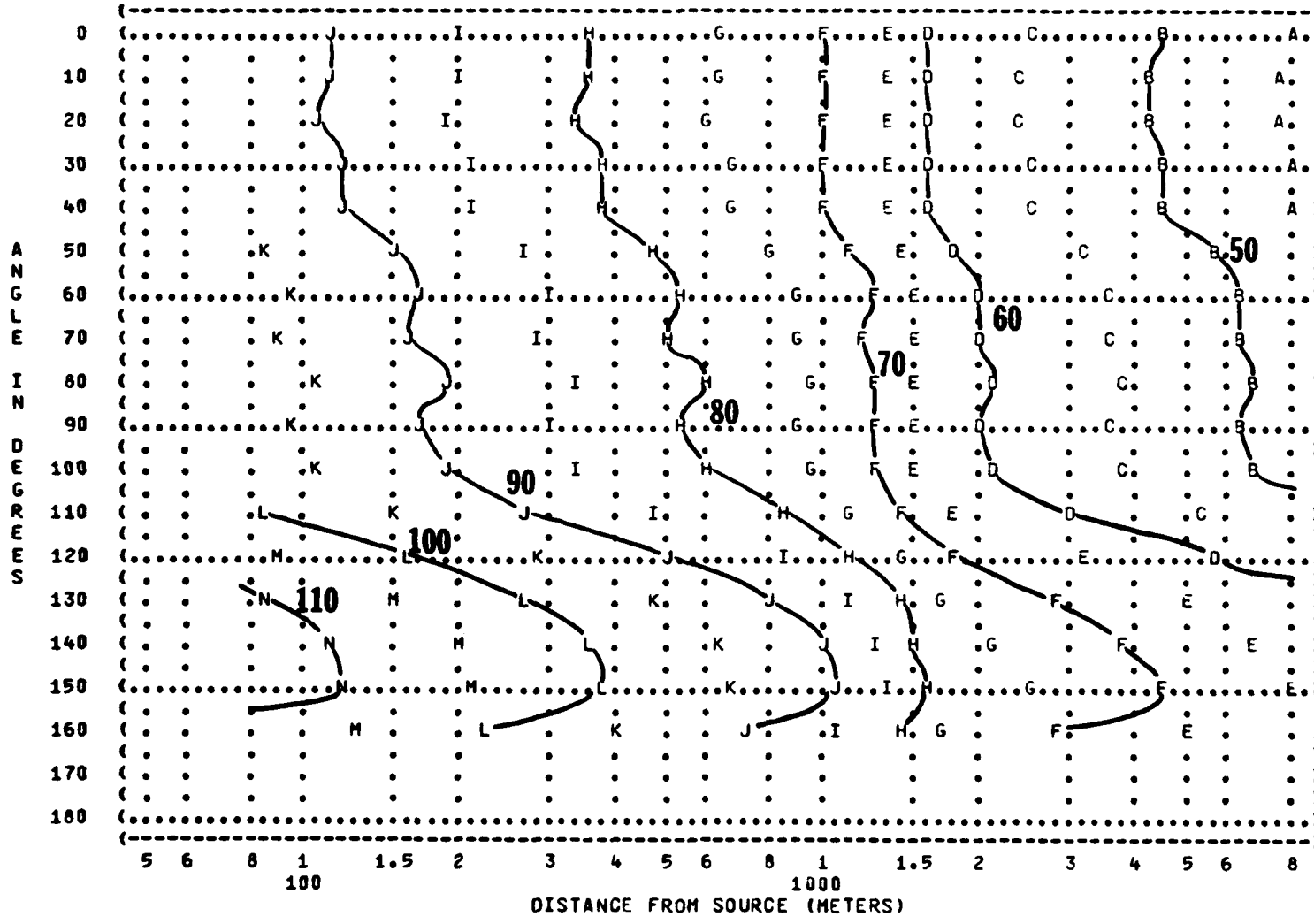
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 31.5 HZ OCTAVE BAND

IDENTIFICATION: OMEGA 1.4 TEST 75-002-062 RUN 02 18 SEP 78 PAGE 18

NOISE SOURCE/SUBJECT: F-100D AIRCRAFT J57-P-21 ENGINE FAR FIELD NOISE

OPERATION: AFTERBURNER POWER 97% RPM DEFLECTED FLOW

METEOROLOGY: TEMP = 15 C BAR PRESS = .760 M HG REL HUMID = 70 %



POINT	DB
A	45
B	50
C	55
D	60
E	65
F	70
G	75
H	80
I	85
J	90
K	95
L	100
M	105
N	110

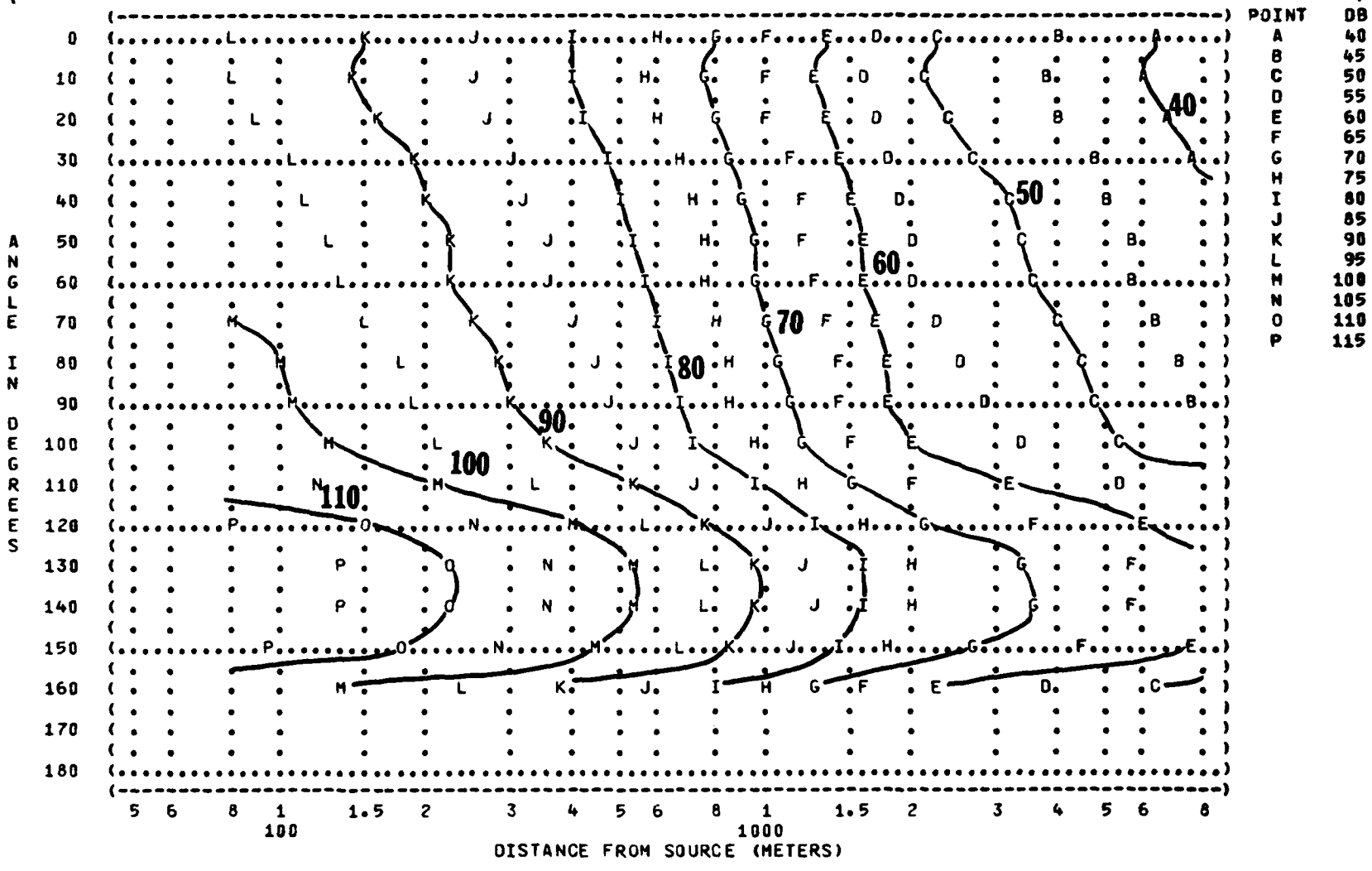
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 63 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
FAR FIELD NOISE

OPERATION:
AFTERBURNER POWER
97% RPM
DEFLECTED FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-062
RUN 02
18 SEP 78
PAGE 19



POINT	DB
A	40
B	45
C	50
D	55
E	60
F	65
G	70
H	75
I	80
J	85
K	90
L	95
M	100
N	105
O	110
P	115

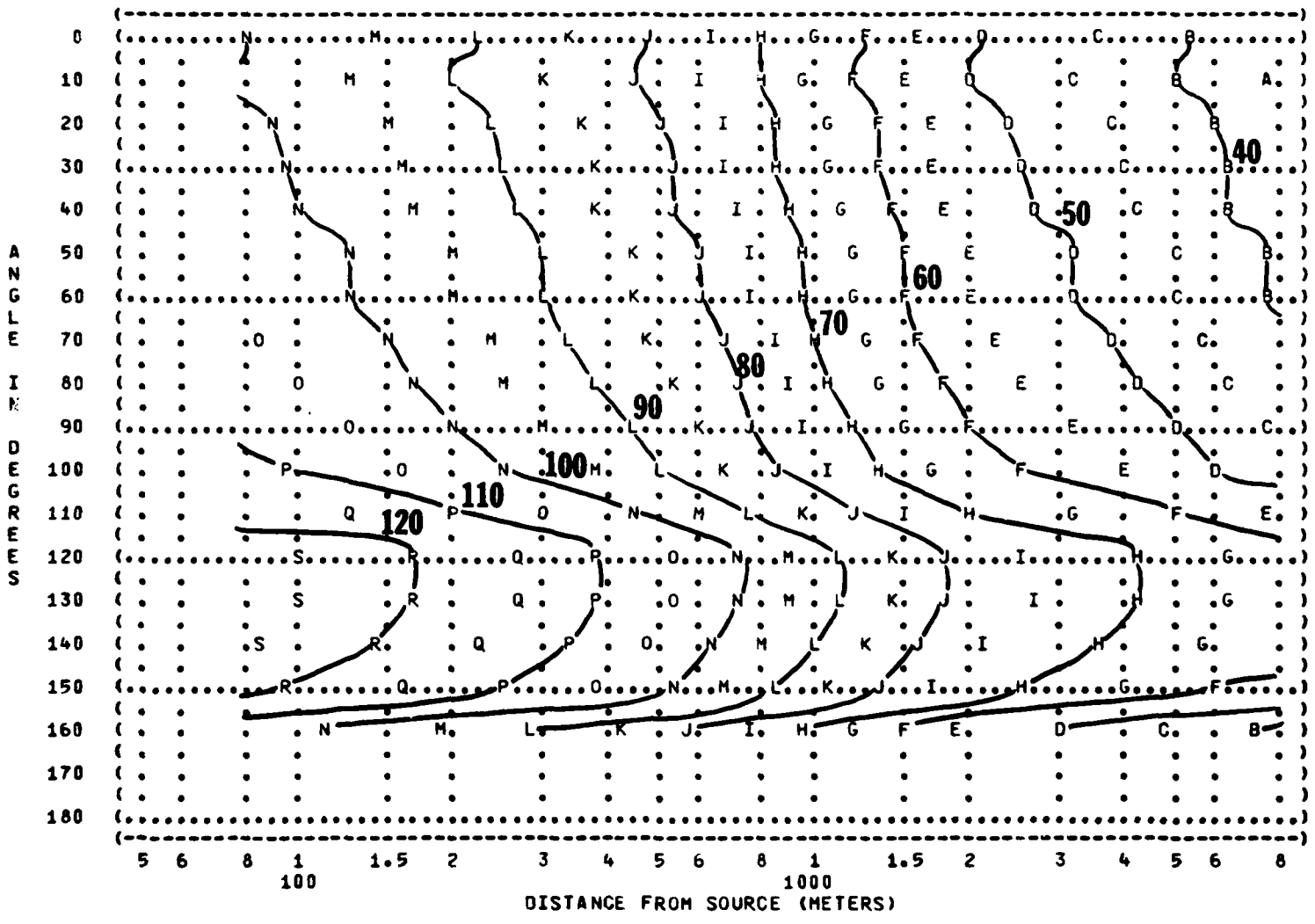
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 125 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
FAR FIELD NOISE

OPERATION:
AFTERBURNER POWER
97% RPM
DEFLECTED FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-062
RUN 02
18 SEP 78
PAGE 20



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95
N	100
O	105
P	110
Q	115
R	120
S	125

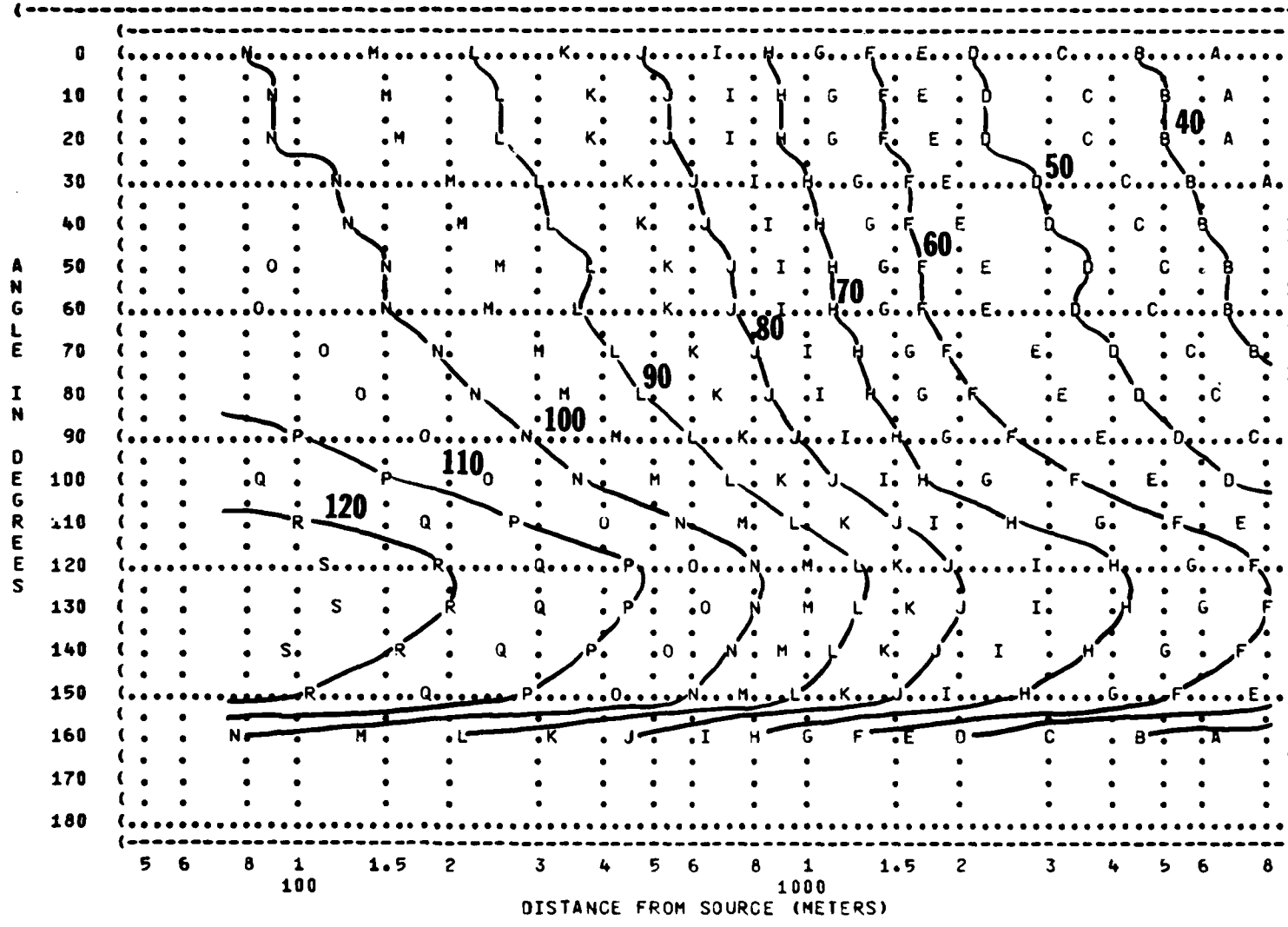
FIGURE 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 250 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
FAR FIELD NOISE

OPERATION:
AFTERBURNER POWER
97% RPM
DEFLECTED FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-062
RUN 02
18 SEP 78
PAGE 21



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95
N	100
O	105
P	110
Q	115
R	120
S	125

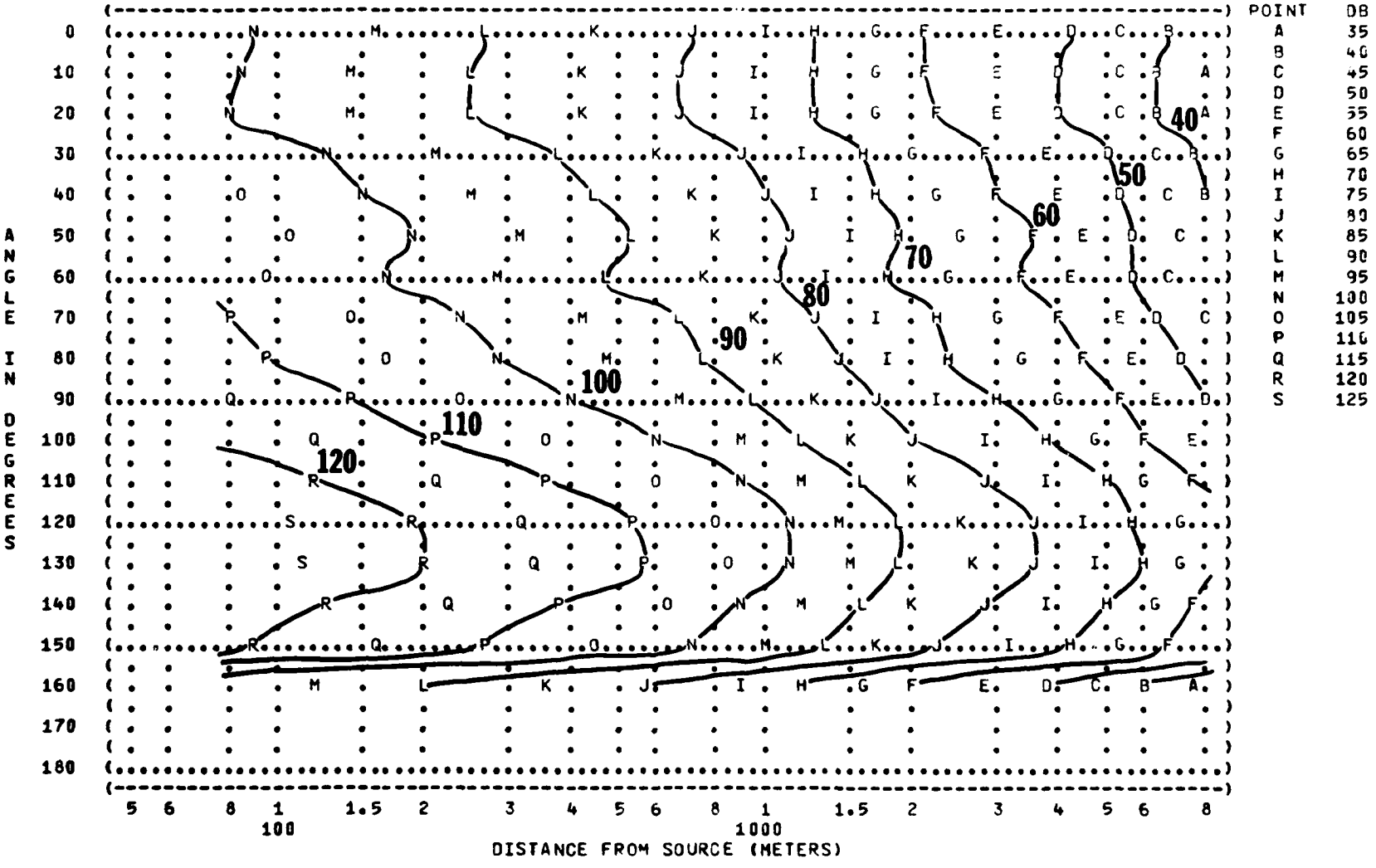
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 500 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 79-002-062
RUN 02
18 SEP 78
PAGE 22

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
FAR FIELD NOISE

OPERATION:
AFTERBURNER POWER
97% RPM
DEFLECTED FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95
N	100
O	105
P	110
Q	115
R	120
S	125

FIGURE: 11

SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
1000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:

F-100D AIRCRAFT
J57-P-21 ENGINE
FAR FIELD NOISE

OPERATION:

AFTERBURNER POWER
97% RPM
DEFLECTED FLOW

METEOROLOGY:

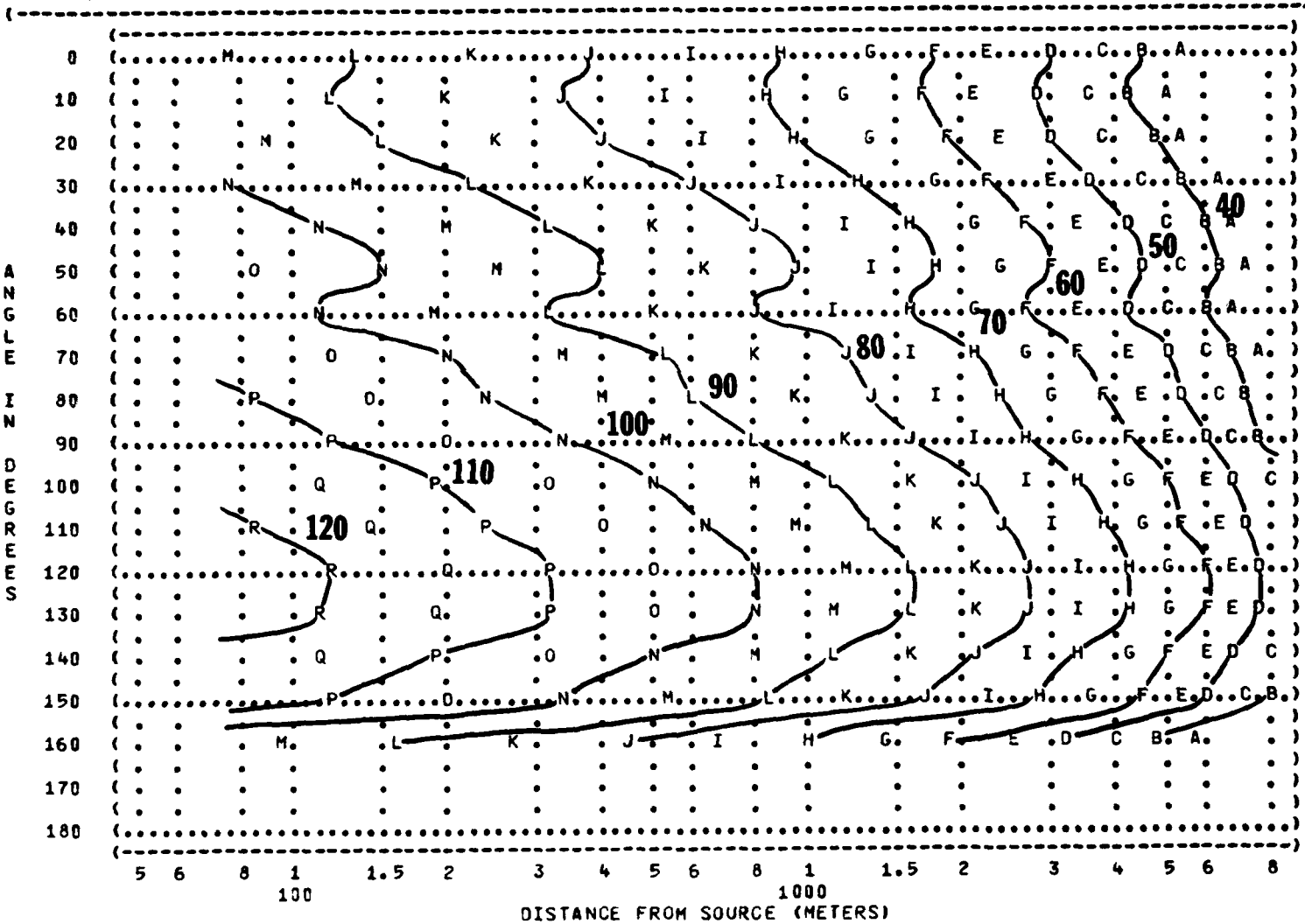
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:

OMEGA 1.4
TEST 75-002-062
RUN 02

18 SEP 78

PAGE 23



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95
N	100
O	105
P	110
Q	115
R	120

FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 2000 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-062
RUN 02
18 SEP 78
PAGE 24

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
FAR FIELD NOISE

OPERATION:
AFTERBURNER POWER
97% RPM
DEFLECTED FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95
N	100
O	105
P	110
Q	115
R	120

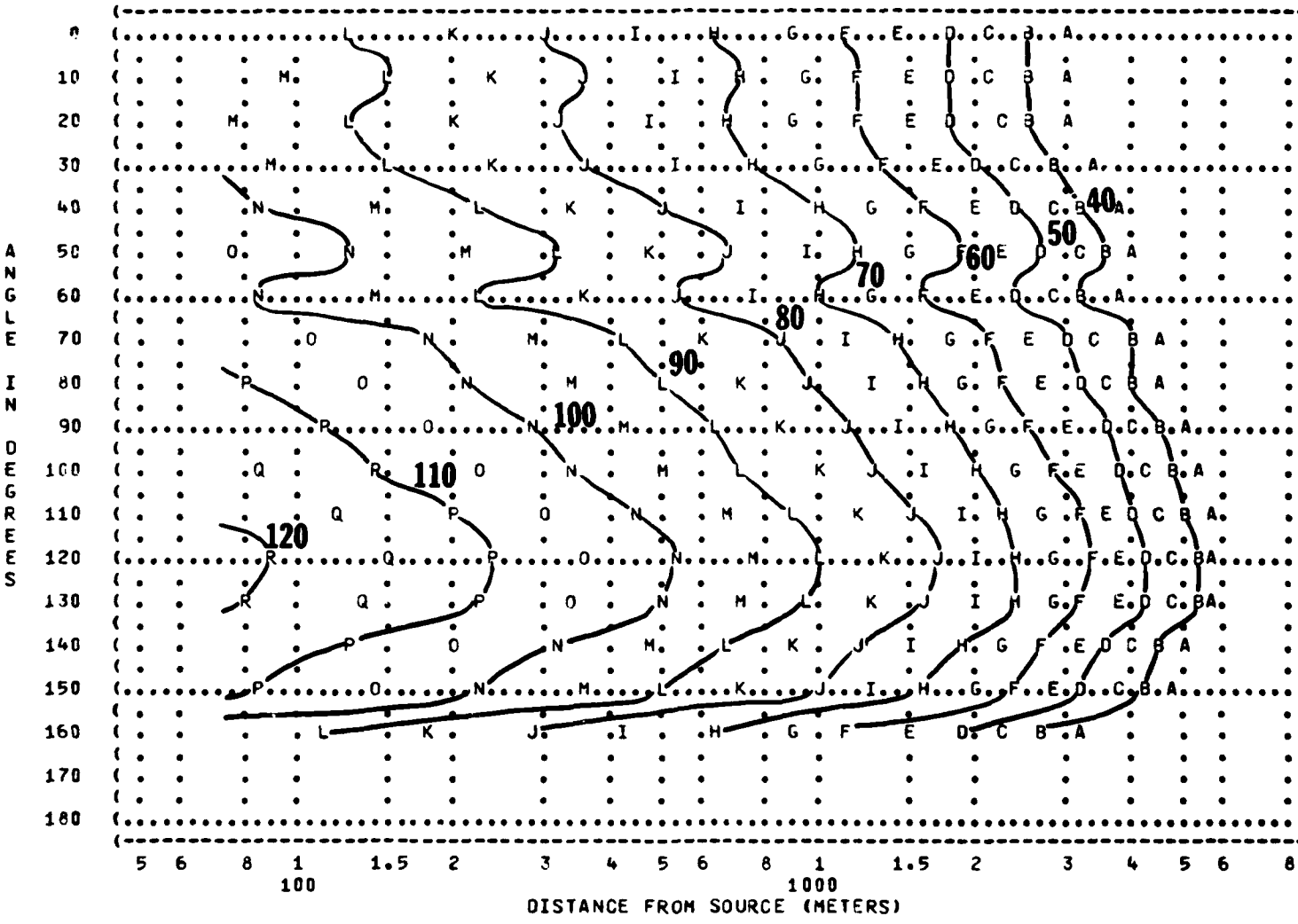


FIGURE: SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
11 4000 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-062
RUN 02
18 SEP 78
PAGE 25

NOISE SOURCE/SUBJECT:
F-100D AIRCRAFT
J57-P-21 ENGINE
FAR FIELD NOISE

OPERATION:
AFTERBURNER POWER
97% RPM
DEFLECTED FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95
N	100
O	105
P	110
Q	115

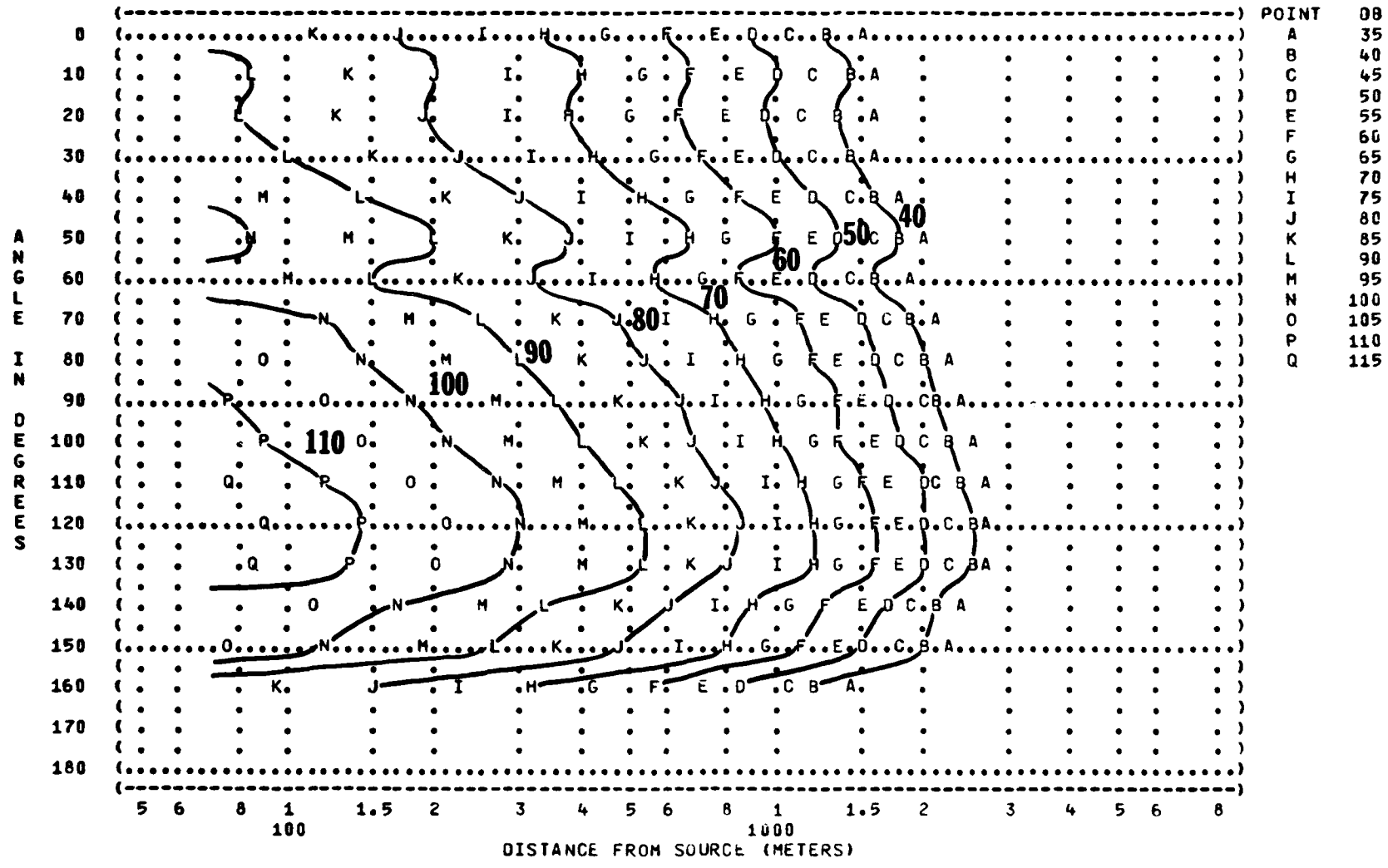


FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 8000 HZ OCTAVE BAND

IDENTIFICATION: OMEGA 1.4 TEST 75-032-062 RUN 02 18 SEP 78 PAGE 26

NOISE SOURCE/SUBJECT: F-1000 AIRCRAFT; J57-P-21 ENGINE; FAR FIELD NOISE

OPERATION: AFTERBURNER POWER; 97% RPM; DEFLECTED FLOW

METEOROLOGY: TEMP = 15 C; BAR PRESS = .760 M Hg; REL HUMID = 70 %

POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95
N	100
O	105
P	110